

---

**FINAL**  
***Environmental Assessment***

**Proposed**  
**U.S. Air Force**  
**Military Family Housing**  
**Privatization Initiative**  
**Patrick Air Force Base, Florida**

**Prepared for:**  
**HQ AIR FORCE CENTER FOR ENGINEERING AND THE**  
**ENVIRONMENT/AC**



**November 3, 2008**

---

Report Documentation Page		Form Approved OMB No. 0704-0188
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.		
1. REPORT DATE <b>03 NOV 2008</b>	2. REPORT TYPE	3. DATES COVERED <b>00-00-2008 to 00-00-2008</b>
4. TITLE AND SUBTITLE <b>Final Environmental Assessment: Proposed U.S. Air Force Military Family Housing Privatization Initiative Patrick Air Force Base, Florida</b>		5a. CONTRACT NUMBER
		5b. GRANT NUMBER
		5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER	
	5e. TASK NUMBER	
	5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>MACTEC Engineering and Consulting, Inc, 4150 N. John Young Parkway, Orlando, FL, 32084</b>		8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSOR/MONITOR'S ACRONYM(S)
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release; distribution unlimited</b>		
13. SUPPLEMENTARY NOTES		

#### 14. ABSTRACT

**This Environmental Assessment (EA) evaluates the potential for environmental consequences from the proposed action, and No Action Alternative for implementing the MFHPI at PAFB. The Housing Requirement and Market Analysis (HRMA) requires 266 units for military family housing. PAFB currently offers housing units in four housing areas: North Housing, Central Housing, Senior Officer Housing, and South Housing. The subjects of this EA are the North Housing and Central Housing areas which are located within the boundary of PAFB. The South Housing area and Senior Officer Housing is currently privatized. The number of current housing units (includes occupied and unoccupied) for each housing area are ? North Housing Area, 250 housing units ? Central Housing Area, 274 housing units ? South Housing Area (Pelican Coast), 156 housing units (new) & 304 (Legacy) (off-base, and privatized) ? Senior Officer Housing, 7 (on Base/privatized) The proposed action is for the Air Force to convey 524 existing housing units (North and Central Housing areas), associated infrastructure, and utilities to a private real estate development and property management company (PO). The PO would then demolish a total of 71 units (in Central Housing), and renovate the remaining units in North and Central Housing. Under the proposed actions, no new construction is planned. This action, along with a previous action in which South Housing (Pelican Coast) and Senior Officer Housing were already privatized would ultimately result in a total end state of 1,062 housing units (before 71 units in Central Housing are demolished, and before 304 Legacy units in South Housing are demolished). This information is reflected in the table below.**

**Number of Accompanied Housing Areas, PAFB (by Housing Area) Under the Proposed Action Alternatives and the No Action Alternative**

PAFB HOUSING AREAS	Current	Proposed Action	No Action Alternative
North	250	203	n/a
Central	274	203	n/a
South/Pelican Coast	156 new units	n/a	n/a
Senior Officer Housing	7	991 (a) 616 (b)	991 (a) 616 (b)
End State # of Units	991 (a) 687 (b)	250 274 n/a n/a	991 (a) 687 (b)

**Source: PAFB, 2008; SAIC, 2007. n/a = Not Applicable. Proposed Alternatives 1 & 2, and the No Action Alternative do not impact the number of housing units in South Pelican and Senior Officer Housing since these housing areas are already privatized. (a) End state includes units currently located in South Housing (531) and Senior Officer (7) Housing. (b) End state includes units in SOH and South Housing, after 304 units in South Housing are demolished. However, it should be noted that the original terms of the privatization of South Housing included the demolition of the remaining 304 Legacy units, as well as building additional housing**

#### 15. SUBJECT TERMS

#### 16. SECURITY CLASSIFICATION OF:

a. REPORT  
**unclassified**

b. ABSTRACT  
**unclassified**

c. THIS PAGE  
**unclassified**

#### 17. LIMITATION OF ABSTRACT

**Same as Report (SAR)**

#### 18. NUMBER OF PAGES

**91**

#### 19a. NAME OF RESPONSIBLE PERSON

**Cover Sheet**  
**FINAL Environmental Assessment**  
**U.S. Air Force Military Family Housing Privatization Initiative**  
**Patrick Air Force Base, Florida**

A. *Responsible Agency:* Air Force Center for Engineering and the Environment (AFCEE)

B. *Cooperating Agencies:* United States Air Force, Patrick Air Force Base (PAFB), Florida

C. *Proposals and Actions:* This environmental assessment has been prepared in accordance with the National Environmental Policy Act to analyze the potential environmental consequences of the proposed Military Family Housing Privatization Initiative (MFHPI) at PAFB, Florida. PAFB is located in Brevard County, Florida south of Cocoa Beach. After considering the potential environmental consequences analyzed for the two proposed actions, and the No Action Alternative, the U.S. Air Force will decide whether to implement one of the two proposed actions, or the No Action Alternative.

D. *Comments and Inquiries:* Comments or inquiries regarding this document should be directed to the AFCEE Point of Contact, Ron Marlin, Housing Privatization Portfolio Manager, HQ AFCEE/HDPM, 2735 Louis Bauer Dr, Brooks City-Base, Texas 78235. Telephone: 210-536-2229

E. *Designation:* Environmental Assessment

F. *Abstract:* (see above) This Environmental Assessment (EA) evaluates the potential for environmental consequences from the proposed action, and No Action Alternative for implementing the MFHPI at PAFB. The Housing Requirement and Market Analysis (HRMA) requires 266 units for military family housing. PAFB currently offers housing units in four housing areas: North Housing, Central Housing, Senior Officer Housing, and South Housing. The subjects of this EA are the North Housing and Central Housing areas which are located within the boundary of PAFB. The South Housing area and Senior Officer Housing is currently privatized. The number of current housing units (includes occupied and unoccupied) for each housing area are:

- North Housing Area, 250 housing units
- Central Housing Area, 274 housing units
- South Housing Area (Pelican Coast), 156 housing units (new) & 304 (Legacy) (off-base, and privatized)
- Senior Officer Housing, 7 (on Base/privatized)

The proposed action is for the Air Force to convey 524 existing housing units (North and Central Housing areas), associated infrastructure, and utilities to a private real estate development and

property management company (PO). The PO would then demolish a total of 71 units (in Central Housing), and renovate the remaining units in North and Central Housing. Under the proposed actions, no new construction is planned. This action, along with a previous action in which South Housing (Pelican Coast) and Senior Officer Housing were already privatized would ultimately result in a total end state of 1,062 housing units (before 71 units in Central Housing are demolished, and before 304 Legacy units in South Housing are demolished). This information is reflected in the table below.

**Number of Accompanied Housing Areas, PAFB (by Housing Area) Under the Proposed Action Alternatives and the No Action Alternative**

	PAFB HOUSING AREAS				
Current and Actions	North	Central	South/Pelican Coast	Senior Officer Housing	End State, # of Units
Current # of Units	250	274	156 new units, 304 Legacy units	7	991(a) 687 (b)
Alternative 1	250	203	n/a	n/a	991 (a) 616 (b)
Alternative 2	250	203	n/a	n/a	991 (a) 616 (b)
No Action Alternative	250	274	n/a	n/a	991 (a) 687 (b)

Source: PAFB, 2008; SAIC, 2007.

n/a = Not Applicable. Proposed Alternatives 1 & 2, and the No Action Alternative do not impact the number of housing units in South Pelican and Senior Officer Housing since these housing areas are already privatized.

(a) End state includes units currently located in South Housing (531) and Senior Officer (7) Housing.

(b) End state includes units in SOH and South Housing, after 304 units in South Housing are demolished.

However, it should be noted that the original terms of the privatization of South Housing included the demolition of the remaining 304 Legacy units, as well as building additional housing units so the total in South Housing would equal 552 housing units. Legacy homes are defined as the existing, older homes located in the Southern Housing/Pelican Coast area, built in 1958 and 1959. Information has since been provided indicating that no additional housing will be built in South Housing, and that the 304 Legacy units will eventually be demolished, leaving a total of 156 units in South Housing. Since the activity at South Housing is not part of the subject EA, but the housing units in this privatized South Housing area and SOH are a part of the entire housing picture at PAFB, the above table reflects two end state scenarios: one scenario includes the 304 Legacy units, and one scenario that represents the end state if the 304 Legacy homes were demolished. At such time as the Legacy Homes in South Housing are demolished, the total number of accompanied housing units available for PAFB under the proposed action will equal

616 housing units, and under the no action alternative the total number of accompanied housing units would equal 687 (includes all four housing areas: North, Central, South, and SOH).

The Project Owner (PO) would lease the associated land from PAFB, and would maintain and manage the North and Central Housing areas for 50 years (Alternative 1), or 10 years (Alternative 2). Under the No Action Alternative, the Air Force would retain ownership of all 524 units in North and Central Housing. Irrespective of the subject EA, South Housing (Pelican Coast) would remain privatized and the Air Force would expect all remaining Legacy homes (304) be demolished leaving 156 total units in South Housing. No additional construction is planned in South Housing.

Resources and issues addressed in the EA include air quality; soil, geology, and topography; water resources; biological resources; human health and safety; solid waste and hazardous materials; utilities; noise; cultural resources; land use; traffic and transportation; and socioeconomics and environmental justice.

**Finding of No Significant Impact (FONSI) and  
Finding of No Practicable Alternative (FONPA)  
Military Family Housing Privatization Initiative  
Patrick Air Force Base, Florida**

**INTRODUCTION**

The United States Air Force proposes to implement a Military Family Housing Privatization Initiative (MFHPI) at Patrick Air Force Base (PAFB). The National Defense Authorization Act for Fiscal Year 1996, Public Law 104-106, 110 St, 186 Section 2801, includes a series of powerful authorities that allow the Department of Defense (DoD) to work with the private sector to build and renovate military housing (these authorities were made permanent in fiscal year [FY] 2005). DoD's goal is to obtain private capital to leverage government dollars, make efficient use of limited resources, and use a variety of private-sector approaches to build and renovate military housing faster and at a lower cost to American taxpayers.

**THE PROPOSED ACTION AND ALTERNATIVE ACTIONS**

**Proposed Action and Alternative Action**

The proposed action is for the Air Force to convey 524 existing housing units (North and Central Housing areas), associated infrastructure, and utilities to a private real estate development and property management company (PO). The associated land would be leased to the PO by the AF, and the PO would maintain and manage the North and Central Housing areas for 50 years (Alternative 1), or 10 years (Alternative 2). The PO will demolish a total of 36 units (in Central Housing), and renovate the remaining units in North and Central Housing. Under the proposed action, no new construction is planned. This proposed action, along with a previous action in which South Housing (Pelican Coast) and Senior Officer Housing were already privatized, would ultimately result in a total end state of 990 housing units (after 36 units in Central Housing are demolished). This information is reflected in the table below.

**Number of Accompanied Housing Areas, PAFB (by Housing Area) Under the Proposed Action  
Alternatives and the No Action Alternative**

Current and Actions	PAFB HOUSING AREAS				End State, # of Units
	North	Central	South/Pelican Coast	Senior Officer Housing	
Current # of Units	250	274	156 new units, 303 Legacy units	7	990 (b)
Alternative 1 (a)	250	238	n/a	n/a	954 (b)
Alternative 2 (a)	250	238	n/a	n/a	954 (b)



<b>No Action Alternative (a)</b>	250	274	n/a	n/a	990 (b)
----------------------------------	-----	-----	-----	-----	---------

(a) Including current # of units in South/Pelican Coast Housing and Senior Officer Housing.

(b) Includes units currently located in South Housing (459) and Senior Officer (7) Housing.

Source: PAFB, 2008; SAIC, 2007

It should be noted that the original terms of the privatization of South Housing included the demolition of the remaining 303 Legacy units, as well as building additional housing units so the total in South Housing would equal 552 housing units. Legacy homes are defined as the existing, older homes located in the Southern Housing/Pelican Coast area, built in 1958 and 1959. Information has since been provided indicating that no additional housing will be built in South Housing, and that the 303 Legacy units will eventually be demolished, leaving a total of 156 units in South Housing. Since the activity at South Housing is not part of the subject EA, the above table does not reflect the demolition of 303 Legacy homes. At such time as the Legacy Homes in South Housing are demolished, the total number of accompanied housing units available for PAFB under the proposed action will equal 651 housing units, and under the no action alternative the total number of accompanied housing units would equal 687 (includes all four housing areas: North, Central, South, and SOH). Irrespective of the subject EA, South Housing (Pelican Coast) would remain privatized and the Air Force would expect all remaining Legacy homes (303) be demolished, leaving 156 total units in South Housing. No additional construction is planned in South Housing.

If the PO decides within the term of the lease that new construction is desired in North or Central Housing, new impact analyses will occur with the help of AFCEE and PAFB as the land will still be retained by the United States Air Force. Any new construction planned on housing sites that have been demolished, not associated with the MFHPI, will be the action of PAFB and separate impact analyses will be prepared by the United States Air Force in accordance with the National Environmental Policy Act (NEPA).

#### **No Action Alternative**

Under the No Action Alternative, the Air Force would retain ownership of all 524 units in North and Central Housing. South Housing (Pelican Coast) would remain privatized and the Air Force would expect all 303 Legacy homes to be demolished in accordance with the existing housing privatization agreement, leaving 156 units in South Housing (unrelated to the proposed action of the subject EA). Legacy homes are defined as the existing, older homes located in the South Housing/Pelican Coast area. The PO will not construct additional housing units in South Housing.

#### **RESOURCES ANALYZED**

Resources and issues addressed in the EA include air quality; soil, geology, and topography; water resources; biological resources; human health and safety; solid waste and hazardous



materials; utilities; noise; cultural resources; land use; traffic and transportation; and socioeconomics and environmental justice.

## ENVIRONMENTAL EFFECTS

The environmental effects of the Proposed Action, Alternative, and No Action Alternative are summarized in the following table.

Resource	Summary of Impact Analysis Results		
	50-Year Lease Alternative	10-Year Lease Alternative	No Action
Air Quality	Short-term adverse impacts, not significant.	Short-term adverse impacts, not significant.	Short-term adverse impacts, not significant.
Soils, Geology, and Topography	No significant adverse impacts.	No significant adverse impacts.	No significant adverse impacts.
Water Resources	No significant adverse impacts.	No significant adverse impacts.	No significant adverse impacts.
Biological Resources	No significant adverse impacts to wildlife or protected species, or to vegetation with adherence to specific lease terms covering defined requirements to prevent jeopardy to listed species.	No significant adverse impacts to wildlife or protected species, or to vegetation with adherence to specific lease terms covering defined requirements to prevent jeopardy to listed species.	No significant adverse impacts to wildlife or protected species, or to vegetation.
Human Health and Safety	No significant adverse impacts. Beneficial impact due to removal of housing below Air Force standards.	No significant adverse impacts. Beneficial impact due to removal of housing below Air Force standards.	No significant adverse impacts.
Solid Waste and Hazardous Materials	No significant adverse impacts. Short-term increase in solid waste and hazardous waste generation from demolition. Minor long-term increase in solid waste and hazardous waste generation if full occupancy.	No significant adverse impacts. Short-term increase in solid waste and hazardous waste generation from demolition. Minor long-term increase in solid waste and hazardous waste generation if full occupancy.	No significant adverse impacts.
Noise	No significant adverse impacts. Short-term increase in noise due to demolition. Minor long term increase in noise if full occupancy.	No significant adverse impacts. Short-term increase in noise due to demolition. Minor long term increase in noise if full occupancy.	No significant adverse impacts.
Cultural Resources	No significant adverse impacts.	No significant adverse impacts.	No significant adverse impacts.
Land Use	No significant adverse impacts. Potential increase in open space.	No significant adverse impacts. Potential increase in open space.	No significant adverse impacts. Positive impact for mission growth needs.
Traffic and Transportation	No significant adverse impacts. Short-term increase in traffic. Minor long-term increase in traffic.	No significant adverse impacts. Short-term increase in traffic. Minor long-term increase in traffic.	Beneficial impacts. Long-term decrease in traffic.

Resource	Summary of Impact Analysis Results		
	50-Year Lease Alternative	10-Year Lease Alternative	No Action
Socioeconomics and Environmental Justice	No significant adverse impacts to employment, income, or environmental justice. Beneficial for long-term housing need.	No significant adverse impacts to employment, income, or environmental justice. Beneficial for long-term housing need.	No significant adverse impacts to employment, income, housing, or environmental justice.
Utilities	No significant adverse impacts.	No significant adverse impacts.	No significant adverse impacts.

The United States Fish & Wildlife Service (USFWS) was consulted with regard to the proposed action, and issued its findings on 8 Aug 2008 (see Appendix B). USFWS stated that the proposed action “may affect” the loggerhead, green, leatherback, hawksbill, and Kemp’s ridley sea turtles. Under Section 7 of the Endangered Species Act, USFWS levied the following requirements which must be included as deed restrictions in perpetuity:

- Street lighting associated with the housing units will be replaced with full-cut-off fixtures with low-pressure sodium lighting and a pole height no higher than 20 feet.
- Porch lighting and floodlights will be replaced with low-pressure sodium lighting that is shielded and directed downward.
- From March 1 through October 31 each year, exterior lights at all ball fields will be turned off by 9pm each night and may not be turned on again until after sunrise.
- At no time should metal halide or mercury vapor lamps be installed on this property. No up-lighting is permitted anywhere on the property.
- Exterior fixtures mounted to homes will be replaced with “downward-directed lights only” to direct lights where needed for safety and security and to ensure no up-lighting and unnecessary lateral light spread.
- Interior lights will be minimized with light-blocking blinds or curtains.
- A lighting survey will be conducted each year prior to March 1. Any lighting source or reflected lighting source visible from anywhere on the beach must be reported to the Service and replaced immediately with the appropriate lighting fixture approved by the Service.

#### **FONSI – Finding of No Significant Impact**

PAFB currently has 990 accompanied housing units in four housing areas: North Housing, Central Housing, Senior Officers Housing, and South Housing. PAFB has a requirement for military family housing for 266 families per the *Housing Requirements and Market Analysis for Patrick Air Force Base* (unpublished). Many of these accompanied housing units are designated for demolition, as is discussed in this document. Pursuant to Section 102(2) (c) of the *National Environmental Policy Act* (NEPA) of 1969 and the Council on Environmental Quality regulations (40 CFR 1500-1508) implementing procedural provisions of NEPA, the Department of Defense (DoD) gives notice that an Environmental Assessment has been prepared for the proposed housing privatization initiative at the North and Central Housing areas at PAFB. A copy of the



EA prepared for the privatization of the South and Senior Officers' Housing was prepared by the Air Force prior to initiation of those actions, and the findings are incorporated here by reference.

Based on the finding of impacts of the attached EA, conducted in accordance with the Council on Environmental Quality regulations implementing the National Environmental Policy Act of 1969 and 32 CFR 989, I find that there will be no significant impact on the quality of the human environment. A Finding of No Significant Impact (FONSI) is issued for the proposed MFHPI at PAFB and an Environmental Impact Statement is not warranted.

**FONPA – Finding of No Practicable Alternative**

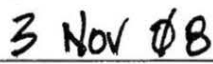
Proposed actions that involve floodplains require additional steps, as per Executive Order (EO) 11988 – *Floodplain Management*, which requires the preparation of a Finding of No Practicable Alternative (FONPA). The purpose of a FONPA is to explain why no other practicable alternative exists to siting the action in floodplains. Developed areas of PAFB are currently located within the 100-year floodplain, and approximately 50 percent of the North Housing area is located within the 100-year floodplain. The floodplain impact has already occurred in the North Housing area, and it would not be practical to demolish existing, livable, occupied housing which currently meets or exceeds USAF housing standards. If all housing units in North Housing were demolished in an effort to restore the floodplain, the historic hydroperiod would also need to be restored in the floodplain. North Housing is currently surrounded on three sides by development, and due to the surrounding development it is not feasible to return the floodplain to historic conditions. Under the proposed action, substandard housing would be demolished, reducing the impermeable surface area -- a positive action within the floodplain. To avoid adverse effects and incompatible development in the floodplain, no new construction is planned by the proposed action in North Housing. The footprint of North Housing will not be changed under the proposed alternative.

The Proposed Action is deemed consistent with the Florida Coastal Management Program. The Air Force will ensure that the Action continues to be consistent to the maximum extent practicable. I find there are no practicable alternatives to this action that will occur in the 100-year floodplain and that all practical measures will be used to minimize harm to the environment.

  
CARLOS R. CRUZ-GONZALEZ

Colonel, USAF

Deputy Director for Installations

  
Date

## TABLE OF CONTENTS

Cover Sheet .....	i
1.0 PURPOSE AND NEED .....	1-1
1.1 Introduction.....	1-1
1.1.1 Project Location .....	1-2
1.2 Purpose of and Need for Action.....	1-3
1.2.1 Air Force Minimum Family Housing Requirements.....	1-3
2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION.....	2-1
2.1 Alternative 1 – Preferred Alternative (Housing Privatization, 50 Year Lease) .....	2-1
2.2 Alternative 2 – Proposed Alternative (Housing Privatization, 10 Year Lease) .....	2-5
2.3 Alternative 3 -- No Action Alternative .....	2-5
2.4 Alternatives Identified But Not Considered in Detail.....	2-6
2.5 Summary of Environmental Impacts .....	2-7
3.0 AFFECTED ENVIRONMENT.....	3-1
3.1 Air Quality .....	3-1
3.1.1 Climate and Meteorology.....	3-1
3.1.2 Air Quality.....	3-1
3.2 Soils, Geology, and Topography.....	3-3
3.2.1 Geology and Topography.....	3-3
3.2.2 Soils.....	3-3
3.3 Water Resources .....	3-4
3.3.1 Ground Water.....	3-4
3.3.2 Surface Water.....	3-5
3.3.3 Stormwater Management .....	3-5
3.3.4 Floodplains .....	3-6
3.3.5 Wetlands.....	3-6
3.3.6 Coastal Zones .....	3-7
3.4 Biological Resources.....	3-8
3.4.1 Vegetation .....	3-8
3.4.2 Wildlife.....	3-9
3.4.3 Exotic/Nuisance Species .....	3-10
3.4.4 Threatened and Endangered Species .....	3-12
3.5 Human Health and Safety .....	3-14
3.6 Solid Waste and Hazardous Materials .....	3-15
3.6.1 Solid Waste .....	3-15
3.6.2 Hazardous Materials, Wastes and Petroleum .....	3-16
3.7 Noise .....	3-18
3.8 Cultural Resources .....	3-19
3.9 Land Use .....	3-19
3.10 Traffic and Transportation .....	3-20
3.11 Socioeconomics and Environmental Justice .....	3-22
3.11.1 Population.....	3-22
3.11.2 Employment and Income.....	3-23
3.11.3 Community Facilities and Services .....	3-23
3.12 Utilities.....	3-25
3.12.1 Water Supply.....	3-25

3.12.2	Sanitary Sewer.....	3-27
3.12.3	Electricity, Heating/Cooling, Natural Gas, Telecommunications .....	3-27
4.0	ENVIRONMENTAL CONSEQUENCES .....	4-1
4.1	Air Quality .....	4-1
4.2	Soils, Geology, and Topography .....	4-2
4.3	Water Resources .....	4-3
4.3.1	Ground Water .....	4-3
4.3.2	Surface Water .....	4-3
4.3.3	Storm Water .....	4-4
4.3.4	Floodplains .....	4-4
4.3.5	Wetlands .....	4-5
4.3.6	Coastal Zones .....	4-5
4.4	Biological Resources.....	4-6
4.4.1	Vegetation .....	4-6
4.4.2	Wildlife.....	4-7
4.4.3	Exotic/Nuisance Species .....	4-8
4.4.4	Threatened, Endangered, and Sensitive Species .....	4-9
4.5	Human Health and Safety .....	4-11
4.6	Solid Waste and Hazardous Materials .....	4-12
4.7	Noise .....	4-13
4.8	Cultural Resources .....	4-14
4.9	Land Use .....	4-14
4.10	Traffic and Transportation .....	4-15
4.11	Socioeconomics and Environmental Justice .....	4-16
4.11.1	Employment and Income.....	4-16
4.11.2	Housing .....	4-16
4.11.3	Community Facilities and Services .....	4-18
4.11.4	Environmental Justice .....	4-18
4.12	Utilities.....	4-18
4.12.1	Water Supply .....	4-18
4.12.2	Sanitary Sewer.....	4-19
4.12.3	Electricity, Heating/Cooling, Natural Gas, Telecommunications .....	4-20
4.13	Cumulative Impacts .....	4-20
4.14	Summary of Impacts of Proposed Action .....	4-20
5.0	AGENCY CONSULTATION.....	5-1
6.0	LIST OF PREPARERS .....	6-3
7.0	REFERENCES .....	7-4

## **TABLE OF CONTENTS (continued)**

### **TABLES**

Table 2-1	Number of Housing Units, and Housing Area Acreage
Table 2-2	Summary of Environmental Impacts
Table 3-1	Soil map units found in the North and Central Housing Areas at PAFB
Table 3-2	Demographic Characteristics of County and State

### **FIGURES**

Figure 1-1	Location of PAFB Housing Areas
Figure 1-2	Location of North and Central Project Area
Figure 2-1	North Housing Area
Figure 2-2	Central Housing Area
Figure 3-1	Groundwater Wells
Figure 3-2	Surface Water and Wetlands
Figure 3-3	100 Year Floodplain
Figure 3-4	Coastal Construction Setback Line
Figure 3-5	Installation Restoration Program Sites
Figure 3-6	North Housing Area Utilities
Figure 3-7	Central Housing Area Utilities

### **APPENDICES**

Appendix A	Acronyms and Terms
Appendix B	Agency Correspondence

# **ENVIRONMENTAL ASSESSMENT: MILITARY FAMILY HOUSING PRIVATIZATION INITIATIVE AT PATRICK AIR FORCE BASE**

## **1.0 PURPOSE AND NEED**

### **1.1 Introduction**

The quality of government owned housing has declined for more than 30 years primarily due to lack of priority. As of 1999, the DoD estimated approximately 200,000 military family housing units were old, lacked modern amenities, and required renovation or replacement. According to DoD, completing this work at current funding levels and using traditional military methods would take 30 years and cost about \$16 billion (Yim, 1999 in Labat-Anderson, 2006). The Joint Chiefs of Staff Strategic Management Plan, and policy developed by the Office of the Secretary of Defense (OSD) set a goal to repair all military family housing by the year 2010. Congress enacted legislation at DoD's request authorizing the MFHPI, to improve housing faster and in a more economical manner than could be achieved if traditional military funds were used. The MFHPI allows private sector financing, ownership, operation, and maintenance of military housing. The MFHPI program was initially authorized in 1996 under the *National Defense Authorization Act*. According to the OSD (DoD, 2008), the *National Defense Authorization Act* (Fiscal Year 1996, Public Law 104-106, 110 St, 186 Section 2801), included a series of powerful authorities that allow DoD to work with the private sector to build and renovate military housing. The Act was reauthorized in 2001 for an additional five years; and was subsequently made permanent (no expiration date). This program allows DoD to provide direct loans, loan guarantees, and other incentives to encourage private developers to operate housing either on, or off, military installations. Since the private sector has investment capital and expertise, the MFHPI program takes advantage of this expertise to provide better quality housing to its service members (Yim, 1999 in Labat-Anderson, 2006). DoD's goal is to obtain private capital to leverage government dollars, make efficient use of limited resources, and use a variety of private-sector approaches to build and renovate military housing faster and at a lower cost to American taxpayers.

Housing privatization is considered a major federal action subject to the requirements of the National Environmental Policy Act of 1969, as amended, which requires Federal agencies to consider environmental impacts in their decision-making process. This EA evaluates the potential for environmental consequences of real property transactions associated with the privatization of housing at PAFB, in accordance with the President's Council on Environmental Quality (CEQ) regulations for implementing NEPA (Title 40 Code of Federal Regulations (CFR) 1500-1508) and Air Force regulations for the Environmental Impact Analysis Process (32 CFR 989). These Federal regulations establish both the administrative process and substantive scope of the environmental impact evaluation, designed to ensure deciding authorities have a proper



understanding of the potential environmental consequences of a contemplated course of action. If appropriate, the findings of this EA will lead to issuance of a Finding of No Significant Impact (FONSI), and Finding of No Practicable Alternative (FONPA).

This Environmental Assessment presents the following information:

- Section 1, purpose and need for the action
- Section 2, proposed action and alternatives
- Section 3, characteristics of the affected environment
- Section 4, potential for environmental consequences
- Section 5, agencies contacted
- Section 6, list of preparers
- Section 7, references

Appendix A provides a list of acronyms used in the EA report. Appendix B provides copies of agency correspondence.

### **1.1.1 Project Location**

PAFB is the home of Headquarters, 45<sup>th</sup> Space Wing, a unit of the Air Force Space Command, located in Brevard County in the central coastal portion of Florida, north of the City of Satellite Beach and south of Cape Canaveral (Figure 1-1, Location Map). Brevard County occupies an area of 1,557 square miles, which is about 20 miles wide (east to west) and 72 miles long. Located adjacent to the Atlantic Ocean, the County varies in elevation from 6 feet above sea level at Merritt Island, to 26 feet above sea level at the City of Cocoa.

Brevard County, where PAFB and Cape Canaveral Air Force Station (CCAFS) are located, is known as Florida's Space Coast. Many areas within the County experienced population growth as a result of the space program at CCAFS and associated missions at PAFB. The Brevard County population as of the 2000 U.S. Census was 476,230. The cities within Brevard County all have populations less than 100,000 people, the largest of which are Palm Bay (79,143), Melbourne (71,382), and Titusville (40,670). This area of the state of Florida is continuing to grow in population size. The Brevard County Planning & Zoning Office Research, where the Research Section serves as a repository for Census data and information for Brevard County, estimated the 2002 Brevard County population as 494,102.

PAFB is the center of administrative activities that support Headquarters 45th Space Wing. The Installation was activated by the U.S. Navy as the Banana River Naval Air Station in 1940 to serve as a base for World War II anti-submarine patrol planes. It was inactivated as a Naval Air Station in 1947 and was transferred to the U.S. Air Force in 1948. In 1950, the Installation was renamed Patrick Air Force Base in honor of Major General Mason M. Patrick. The PAFB population includes active duty, Reserve or Guard Personnel, DoD tenants, civil service employees, and non-government employees. In addition to these employees, there are a

substantial number of military dependents and contract civilians who live or work at PAFB. Including the thousands of military retirees in the area, PAFB supports a population of over 30,000 people (PAFB General Plan) (USAF, 2004). PAFB and nearby CCAFS form the center for launch operations. PAFB maintains an active airfield; the total base area is approximately 2,000 acres in size. There are four housing areas associated with PAFB (North, Central, South Housing/Pelican Coast and Senior Officer Housing [SOH]). The North Housing, Central Housing, and SOH areas (are located within the boundary of PAFBs) and South Housing/Pelican Coast is located south of PAFB (off-base).

Two large rivers, the Banana River and Indian River (parallel to the Atlantic Ocean) separate the County's mainland from the barrier islands and the Atlantic Ocean beach. These water areas create numerous opportunities for sports and outdoor recreational activities. There are 10 beaches along the 72 mile coast, 107 parks, recreational and boating facilities, 27 golf courses, and over 13 tennis clubs in the county. Brevard County also has two cultural centers for performing arts, six museums, several musical organizations and community theaters.

## **1.2 Purpose of and Need for Action**

The purpose of the proposed action is to privatize housing in North and Central Housing areas within PAFB (Figure 1-2), despite the apparent surplus in military housing, based on the results of the most recent HRMA analysis (Science Application International Corporation, September 8, 2008). Housing units in these areas that are below USAF standards and that are not cost effective to be repaired will be demolished. This will ensure the housing in North and Central Housing areas will meet, or exceed USAF standards and remain in that condition, given the \$3,800 limit on Maintenance and Repairs (M&R).

The proposed action is needed to provide a funding mechanism to complete privatized housing efforts at Moody, Hanscom, Little Rock, and Patrick air force bases as the contractor for all four bases is currently in default. The anticipated outcome would provide a funding mechanism (rental income) via the currently perceived surplus housing located in the North and Central Housing areas located at PAFB.

### **1.2.1 Air Force Minimum Family Housing Requirements**

Air Force policy establishes a minimum family housing requirement for each Installation based on the following four criteria (USAF, 2005):

- Sufficient military family housing to maintain a viable military community,
- Housing for key and essential personnel,
- Preservation of historic housing, and
- Sufficient, suitable housing for lower income military families.

There are four housing areas associated with PAFB [North, Central, South/Pelican Coast and Senior Officer Housing (SOH)]. The North and Central Housing areas (located on-base) currently utilize Military Family Housing funds for repairs and maintenance limited to \$3,800 per unit, per year. South Housing/Pelican Coast (located off Base proper) and SOH (located within the boundary of PAFB) are currently privatized as part of the privatization known as the American Eagle project.

All four housing areas are for accompanied (i.e. personnel living with family members) service members. The majority of accompanied housing units in North and Central Housing were occupied at the time of the site reconnaissance for this EA (February, 2008). In February 2008 units in both North and Central Housing could not be rented because they were below USAF standards. Other vacant housing observed during the February 2008 site visit met or exceeded USAF standards.

Although the focus of this EA is the North and Central Housing areas, the status of the already privatized South Housing and SOH must also be considered. The original 2004 project for South Housing conveyed 960 units to a private entity, American Eagle, composed of Carabetta Enterprises, Inc. and Shaw Infrastructure. American Eagle was contracted to demolish all existing units in South Housing and construct 552 new units. To date, American Eagle has constructed only 156 new homes in South Housing and has not yet demolished the older homes as contracted. American Eagle has demolished only a portion of the Legacy homes. Currently, there are 304 Legacy homes remaining in South Housing. There are no plans to build additional new homes in South Housing as originally contracted, thus the total number of homes in South Housing will remain at be 156 units. The new construction planned under the American Eagle project in SOH, i.e. 7 new homes, is complete in this housing area.

American Eagle was also the successful offeror for family housing privatization initiatives at Moody AFB, Georgia; Little Rock AFB, Arkansas; and Hanscom AFB, Massachusetts (each project has undergone separate environmental analyses). All of these projects are in default and have serious financial problems, including South Housing at PAFB. American Eagle is working with the bondholders and the Air Force in a consensual sale process. The Air Force has requested the four projects be sold and restructured as one group. As part of this process, the Air Force will incorporate the 524 North/Central on-base units at PAFB into the sale group. Although a successful outcome is anticipated, there is no guarantee that privatizing the North and Central Housing areas at PAFB will result in a successful financial venture to fund privatized housing at Moody, Little Rock, and Hanscom Air Force bases. It is anticipated additional oversight by AFCEE will be necessary to make this a win-win situation for all.

The current financial situation affects housing at Moody, Little Rock, and Hanscom bases where the required new homes and renovations cannot be funded at this time. Although according to the most recent HRMA for PAFB (Science Application International Corporation, September 8,

2008), there appears to be a surplus of housing at PAFB, the other three bases are in need or more housing. The privatization of PAFB housing areas (North and Central) will provide a mechanism for funding privatized housing efforts at all four bases based on the PAFB rental income generated by the proposed privatization action for North and Central Housing, PAFB. The majority of the North and Central Housing units requires little renovation and would contribute to immediate positive cash flow to the larger project. The additional income from the North and Central PAFB units will substantially improve the quantity and quality of the scope that can be provided across the group resulting in a greater good; greatly improved housing for Air Force families at the air force bases: Moody, Little Rock, Hanscom, and Patrick.

The Air Force Housing Requirements and Market Analysis (HRMA) are designed to determine the housing requirements for military families and unaccompanied personnel at domestic and overseas U.S. Air Force installations. The goal of the HRMA is to develop consistent, defensible results on which to base planning and programming decisions for military housing. The most recent draft HRMA (indicates that all of the military housing requirements for PAFB can be satisfied in the local community with the exception of 266 units). However, many military families prefer to live on Base, as it is convenient and affords a sense of camaraderie. Current occupancy is approximately 600 units, including the existing privatized South Housing, on-base privatized SOH units, and the North and Central Housing units. This compares favorably to 616 units with a 95% occupancy projection currently being modeled in the proposed project.

In addition to the necessity of accompanied housing for Air Force personnel stationed at PAFB, housing needs for military branches (other than the Air Force) are also being met by PAFB (i.e. U.S. Army, Marine, and Navy), as well as the Coast Guard. Approximately 205 military personnel from Cape Canaveral Air Force Station (CCAFS) also utilize the housing provided by PAFB (Ahlin, 2008, personal communication). CCAFS is located 11.5 miles north of PAFB, on State Road A1A. There is no housing available at CCAFS due to operational and space constraints and no near-term plan to provide housing for CCAFS personnel at that facility, so PAFB plays an important role in providing military housing for CCAFS personnel.

PAFB has identified two issues related to housing: the need to maintain and improve the quality of military housing available to service members; and the operational growth needs for the Base.

The quality of military housing in the North and Central Housing areas at PAFB is impacted by the maintenance and repair limit currently imposed by maintenance and repair (M&R) funding. Currently, since the housing in the North and Central Housing areas appear to be in excess, and since these areas are not privatized, AFI 32-6002, paragraph 1.3.8.3 limits M&R funding to \$3,800 per unit per fiscal year. The Air Force Office of the Civil Engineer (AF/A7C) must approve expenditures in excess of this limitation. However, a waiver would not meet the purpose and need, and the preferred alternative is the most effective use of taxpayers' money.

The condition of many of the unoccupied units in the North and Central Housing areas are below Air Force housing standards, i.e. the repair expenses exceed \$3800. Typical maintenance and repairs for accompanied housing include: maintenance of appliances, heating and cooling system, electric garage doors, replacement of flooring, and smoke detectors, as well as cleaning and painting when units are vacated. The change of occupancy maintenance fee is a firm-fixed price, which is subcontracted out by the AF, and is also deducted from the \$3800 per year, per unit limit. PAFB simply does not have the funds available to repair and maintain many of the housing units on Base. Of the 524 existing housing units (PAFB North and Central Housing areas) proposed for conveyance to privatization, 98 units (or 19 %) are currently below Air Force standards (not ready for occupancy), and 426 units (81 %) meet or exceed Air Force housing standards (and are either occupied, or available for occupancy) (USAF, 2007). Several of the units were damaged by hurricanes in 2004, have not been repaired, and the units remain idle. Currently, the 98 units below Air Force standards will need repairs costing in excess of \$3800. Additionally the housing units in the North and Central Housing areas were built in 1995, which was prior to the implementation of a statewide building code (mid 2002) which requires more stringent hurricane-resistant criteria for structures, which can impact the cost of future repairs in order to meet more stringent building criteria. It is anticipated housing renovations will be required to meet the more stringent hurricane-resistant criteria, whether the housing area management remains as is, or if the North and Central Housing areas are privatized.

## **2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION**

This section presents the proposed action (50-year lease), an alternative (10-year lease), and the No Action Alternative, and briefly describes alternatives that were identified but will not be considered in detail in the EA.

### **2.1 Alternative 1 – Preferred Alternative (Housing Privatization, 50 Year Lease)**

The MFHPI allows PAFB to address housing needs through leasing of land parcels to a private developer for the purpose of privately financing the revitalization of military housing areas.

Under this alternative, PAFB proposes to conduct a real estate transaction with a private developer under the authority of the MFHPI, to convey 524 units and lease approximately 102 acres of land divided between two housing areas (North Housing area and Central Housing area) to a PO. The preferred action (Alternative 1) involves a non-Federal Acquisition Regulation (FAR) real estate transaction under which the Government will convey 250 existing housing units in the North Housing area (Figure 2-1), and 274 existing housing units in the Central Housing area (Figure 2-2) and certain associated improvements (pavilions, playgrounds, for example). The PO will obtain all necessary financing; provide the required equity; and plan, renovate, maintain, and manage the rental housing. This conveyance to the PO includes all paving, drainage, and any conveyed utilities for 50 years. This action would accelerate housing renovations ultimately improving morale of resident personnel. The project footprint would not increase from the current state. New construction is not anticipated in the North or Central Housing areas. If the PO decides within the term of the lease that new construction is desired, new impact analyses will occur with the help of AFCEE and PAFB as the land will still be retained by the United States Air Force. Any new construction planned on housing sites that have been demolished will be the action of PAFB and separate impact analyses will be prepared by the United States Air Force in accordance with the National Environmental Policy Act. Under the Proposed Action the PO would complete interior renovations/repairs and routine exterior repairs to existing buildings in North and Central Housing areas. The properties would be leased to active military personnel. Under the Proposed Action there would be no increase in the footprint of the North and Central Housing areas.

The USAF would expect to execute various documents with the PO as relates to this transaction. These documents may include, but are not limited to:

- Purchase and sale agreement
- Declaration of Land Use Restrictive Covenants
- Ground Lease
- Operating Agreement.

In North Housing, 72 units of the 250 units will require substantial renovation. In Central Housing 203 units of the 274 units will require renovation and 71 units are proposed for demolition. The remaining housing units and associated areas will comprise the lease boundary, approximately 102 acres of land divided between two housing areas on Base. Demolition impacts are expected to be short term. No new construction of housing units is proposed. Table 2-1 reflects detailed information regarding the number of units and acreage for each housing area.

**Table 2-1. Number of Housing Units, and Housing Area Acreage**

Housing Area	Existing Number of Units (a)	Approximate Acreage
North Housing Area	250	50
Central Housing Area	274	52

(a) Includes residential units that meet USAF standards, and units that do not meet USAF housing standards.

The current level of housing provided in the privatized, off-base South Housing area meets 60 percent of the most recent Housing Requirements and Market Analysis (HRMA) requirement of 266 housing units for PAFB. The HRMA analysis is a bit misleading regarding housing needs since personnel from other branches of the military and other AF facilities also live in PAFB housing. However, as noted in a recent market analysis of competitive off-base housing completed for this project (Novogradac and Company, April, 2008), existing homes in the South Housing area are nearly all rented, and the waiting list for single-family and duplex homes with 2 to 4 bedrooms is growing. Thus, it is expected there will be an increased demand within the current PAFB tenant-base for family housing in the North and Central Housing areas particularly after repairs and interior upgrades are completed by the PO.

A general description and proposed disposition of the units in each parcel is reflected in the following paragraphs:

#### **North Housing Area**

- Initially/currently contains 26 single family structures, 56 duplex structures, and 28 quadraplex structures (or 250 accompanied housing units).
- 9 percent of the units are below Air Force housing standards, and 91 percent meet or exceed Air Force standards, as of November 2007
- The land, houses, pavilions, playgrounds, and tennis/basketball courts would be leased to the PO (to be negotiated). River walk and docks would be retained by the government
- The pump station north of the North Housing area, but still within PAFB, would be excluded from the conveyance. The PO would be required to provide security fencing to stop unauthorized access.
- PO will maintain the retention areas in both North and Central Housing areas (to be negotiated).
- The timeline for completing the renovations will be negotiated with the PO.



### Central Housing Area

- Initially/currently contains 16 single family structures, 35 duplex structures, and 47 quadraplex structures (or 274 accompanied housing units).
- 28 percent of units are below Air Force housing standards, and 72 percent meet or exceed Air Force standards.
- The land, houses, pavilions, and playgrounds would be leased to the PO.
- The Education Center would be excluded from the conveyance.
- Only the areas north and south of the new Child Development Center (CDC)/Education Center will be available for leasing.
- Base to retain School Avenue for an access road from S. Patrick Drive to the CDC and Education Center for the benefit of the Base personnel.
- PO will maintain walls, fences, and gates.

Although privatization projects at other Air Force bases are designed to meet the needs of military families, the PO is allowed to offer units for rent to non-target tenants when occupancy rates fall below expected levels for a designated period of time, such as 2 or 3 months. Normally, the PO follows a priority list, referred to as a tenant waterfall, when renting units to non-target tenants. In a typical tenant waterfall, vacant family housing units are first offered to single or unaccompanied active duty military service members; then to DOD-related individuals, such as retired military personnel and civilians and contractors who work for DOD; and finally to civilians in the general public (GAO, 2006).

Use of the tenant waterfall helps reduce risk to the PO as described in the Air Force's *New Housing Privatization Tenant Waterfall Implementation Policy* (July, 2006). While the target tenant group for any Base housing program is active duty military families, if the occupancy levels are not met with that tenant group then the project owner can go down the waterfall, provided the triggers are met. Since the April 2008 market analysis of PAFB housing (Novogradac & Company, 2008) indicated that the vacancies in North and Central Housing will be filled with Air Force personnel, it has been assumed for the analysis in this EA that no tenant waterfall will be activated over the life of the 50-year lease. Non-military, non-target tenants are not expected to become residents in the North and Central Housing areas.

All utilities and infrastructure associated with the North and Central Housing areas will be the responsibility of the PO. This will include arranging for all services to be provided directly from the provider (Florida Power and Light [FPL], Cities of Cocoa and Cocoa Beach, etc.) without PAFB's intermediate support or infrastructure and providing all permitting and connections for these services as well. The existing infrastructure associated with electrical, natural gas, water, and sewer utility is currently owned by the Government. Water is supplied to PAFB from the City of Cocoa, and enters the Base in the northern area of the Base (pump house). The federal government purchases electricity from FPL, and distributes the electricity for the Base. Distribution of these utilities is currently conducted by the federal government.

The PO will maintain the various utility infrastructure and points of demarcation (to be negotiated)

Firefighting and police service related to PAFB facilities would still be contracted from PAFB as the closest responder. Civilian police and medical emergencies will require coordination with Brevard County Sheriff/Emergency Response.

The capacity of the Base to accommodate mission growth is a concern. There are numerous mission partners who are tenant units at PAFB, including the Air Force Technical Applications Center, the Defense Equal Opportunity Management Institute, the Department of State, and the 920th Rescue Wing (USAF, 2004). Because the commercial launch business is anticipated to continue to expand into the 21st Century, PAFB is in a strategic position for supporting private industry. The 45th Space Wing's Operations Group is also responsible for program management, operation of squadron activities, and management of the PAFB air traffic complex (more than 240,000 aircraft operations annually) (USAF, 2004). Due to the existing capabilities of the Base and the Operations Group, the opportunity exists for the future expansion of Air Force operations and the accommodation of additional flying missions.

The lack of vacant, developable land is a considerable natural constraint to growth at PAFB. PAFB is approximately 2,000 acres in size and cannot expand outside of the current Base boundary, as PAFB is situated on a barrier island with the Banana River to the west, the Atlantic Ocean to the east, and commercial/residential to the north and south. Undeveloped lands on PAFB are limited in size and have been disturbed (USAF, 2004). Approximately 90 acres of PAFB is used for two active runways, which present operational constraints for growth. The runway clear zones must be generally kept free of above-ground structures and could potentially include another 200 acres of land. Many of the structures in the administration area of PAFB are currently located within the clear zone, and these structures will be demolished/removed as it becomes economically feasible (USAF, 2004). Additionally, there are nine explosive storage areas and four hot cargo aircraft loading pads on the Base (USAF, 2004). The explosive storage areas and hot cargo aircraft loading pads on Base also require a clear zone, which inhibits development of 180 acres (USAF, 2004).

To provide a general assessment of PAFB's capacity for growth, the General Plan (USAF, 2004) used three scenarios to describe the potential for future development:

1. Limited Growth: assumes minor increases in mission requirements with little change in the Base population, and new construction will be needed primarily to replace older facilities;
2. Moderate Growth: assumes additional mission tasking with increases in related support activities, and population increases approaching 25 percent per year; and
3. Significant Growth: assumes major mission increases and related expansion, with a potential for doubling the Base population in one year. Several new facilities would be required, including housing and support facilities.

Based upon the current stability of the Installation, and lack of substantial vacant, undeveloped land, the Limited Growth scenario is assumed to be the most realistic description of the Installation's growth potential (USAF, 2004). The projected associated population growth associated with that scenario will likely require additional housing that is at, or above, Air Force standards.

Privatization of military housing provides the resources that the Air Force cannot provide for keeping residential units in marketable condition. Without privatization, the Air Force relies on funds appropriated by Congress, which is limited to \$3800 per year, per unit for maintenance. These appropriated funds designated for the Air Force cannot be used for rebuilding or renovating personnel housing, only for repairs and routine maintenance. Obtaining funding is easier for developers; for example, a developer can usually obtain a mortgage. A PO is in a better position to leverage funds, and privatization would allow the PAFB to get out of the housing business. Housing privatization allows housing to improve (via repairs and maintenance) faster and in a more economical manner than could be achieved if traditional military funds were used. This program allows DoD to provide direct loans, loan guarantees, and other incentives to encourage private developers to operate housing either on, or off, military installations. DoD's goal is to obtain private capital to leverage government dollars, make efficient use of limited resources, and use a variety of private sector approaches to build and renovate military housing faster and at a lower cost to American taxpayers.

## **2.2 Alternative 2 – Proposed Alternative (Housing Privatization, 10 Year Lease)**

Alternative 2 would resemble Alternative 1 described above in every way with the exception that the length of the lease with the PO would be for 10 years instead of 50 years. All other terms of the lease negotiation would be as described above for Alternative 1.

## **2.3 Alternative 3 -- No Action Alternative**

In order to meet the requirements of CEQ and Air Force regulations, as related to the implementation of NEPA, consideration of the No Action Alternative is required. The No Action Alternative serves as a baseline against which the impacts of the proposed action and alternatives can be evaluated.

Under the No Action Alternative, PAFB would not implement either of the proposed actions (Alternatives 1 or 2). Under the No Action Alternative, the Air Force would retain ownership and management responsibility for all 524 units in North and Central Housing. South Housing (Pelican Coast) and SOH would remain privatized and the Air Force would expect the remaining 304 Legacy homes in South Housing to be demolished, leaving 156 new units (current condition). Under the No Action Alternative, PAFB would continue to provide on-base housing to service personnel through the use of traditional military maintenance procedures (M&R funds). PAFB

would continue to obtain funding for family housing through the Congressional authorization and appropriations process. Over time it is likely the USAF would demolish homes within the North and Central Housing area, as growth needs for PAFB 45th Space Wing increase. Based on historical trends, Congressional funding for family housing would not likely increase and the number of on-base PAFB housing units falling below Air Force housing standards (needing substantial repairs, or requiring renovation) would continue to increase due to insufficient funds. However, since the majority of housing units located on-base (North and Central Housing areas) are considered surplus according to HRMA report, it is reasonable to assume that, under Alternative 3, PAFB would demolish the surplus units.

The units in Central Housing area would likely be demolished first, because that is the area slated for mission growth. There were 26 units in Central Housing demolished in 2007 due to location within a blast set back zone from the Truck Inspection Station. It is anticipated that under the No Action Alternative the need to remove (demolish) housing units in the Central Housing area will be required. Therefore, should the No Action Alternative be selected, it is likely the demolition of the majority of surplus housing units currently located in the Central Housing area would eventually occur since the most recent HRMA concluded PAFB only requires 266 housing units.

The North Housing area, located in the northern tip of the Base, is more easily segregated from the rest of the Base, and would likely be affected by the need for land areas to accommodate mission growth only after the conversion of the Central Housing area to a non-housing land use.

Under Alternative 3, PAFB would eventually rely solely on the private sector (privatized South Housing area (Pelican Coast), for example) to meet the housing needs of service members eligible for family (accompanied) housing. PAFB would eventually terminate its on-base family housing programs, dispose of existing family housing units, and convert the land that now supports housing areas to other uses. These activities would require approval of the Secretary of the Air Force. The No Action Alternative (Alternative 3) would assume competitive marketplace forces would lead to the creation of sufficient affordable, quality family housing. However, there are several intangible benefits to military personnel and their families living on-base. These benefits include:

- Camaraderie,
- Convenient access to military community services,
- A sense of “family” among dependents, and
- A sense of security for dependents, when service members deploy.

## **2.4 Alternatives Identified But Not Considered in Detail**

Another alternative to maintaining the family housing at PAFB is to shift residential services from the Central and North Housing areas to other military installations. Cape Canaveral Air Force Station is nearest in proximity to PAFB; 11.5 miles north of PAFB, on State Road AIA.

However, as stated in Section 1.3, there is no housing available at CCAFS due to operational and space constraints, and there is no near term plan to provide housing at CCAFS.

There are no military installations, with housing, within the 60 mile Rental Commute Area for PAFB, and so reliance on family housing at other area military Bases is not a viable option.

## **2.5 Summary of Environmental Impacts**

Potential impacts resulting from the Proposed Action (50-Year Lease, Alternative 1), the 10-Year Lease Option (Alternative 2) and the No Action Alternative (Alternative 3), based on the analysis presented in Section 4 of this EA are summarized in Table 2-2.

**Table 2-2. Summary of Environmental Impacts**

Resource	Summary of Impact Analysis Results		
	50-Year Lease Alternative	10-Year Lease Alternative	No Action
Air Quality	Short-term adverse impacts, not significant.	Short-term adverse impacts, not significant.	Short-term adverse impacts, not significant.
Soils, Geology, and Topography	No significant adverse impacts.	No significant adverse impacts.	No significant adverse impacts.
Water Resources	No significant adverse impacts.	No significant adverse impacts.	No significant adverse impacts.
Biological Resources	No significant adverse impacts to wildlife or protected species, or to vegetation with adherence to specific lease terms covering defined requirements to prevent jeopardy to listed species.	No significant adverse impacts to wildlife or protected species, or to vegetation with adherence to specific lease terms covering defined requirements to prevent jeopardy to listed species.	No significant adverse impacts to wildlife or protected species, or to vegetation.
Human Health and Safety	No significant adverse impacts. Beneficial impact due to removal of housing below Air Force standards.	No significant adverse impacts. Beneficial impact due to removal of housing below Air Force standards.	No significant adverse impacts.
Solid Waste and Hazardous Materials	No significant adverse impacts. Short-term increase in solid waste and hazardous waste generation from demolition. Minor long-term increase in solid waste and hazardous waste generation if full occupancy.	No significant adverse impacts. Short-term increase in solid waste and hazardous waste generation from demolition. Minor long-term increase in solid waste and hazardous waste generation if full occupancy.	No significant adverse impacts.
Noise	No significant adverse impacts. Short-term increase in noise due to demolition. Minor long term increase in noise if full occupancy.	No significant adverse impacts. Short-term increase in noise due to demolition. Minor long term increase in noise if full occupancy.	No significant adverse impacts.
Cultural Resources	No significant adverse impacts.	No significant adverse impacts.	No significant adverse impacts.
Land Use	No significant adverse impacts. Potential increase in open space.	No significant adverse impacts. Potential increase in open space.	No significant adverse impacts..
Traffic and Transportation	No significant adverse impacts. Short-term increase in traffic. Minor long-term increase in traffic.	No significant adverse impacts. Short-term increase in traffic. Minor long-term increase in traffic.	Beneficial impacts. Long-term decrease in traffic.
Socioeconomics and Environmental Justice	No significant adverse impacts to employment, income, or environmental justice.	No significant adverse impacts to employment, income, or environmental justice.	No significant adverse impacts to employment, income, housing, or environmental justice.
Utilities	No significant adverse impacts.	No significant adverse impacts.	No significant adverse impacts.

## **3.0 AFFECTED ENVIRONMENT**

This section describes the existing condition of resources at PAFB, laying the groundwork for the discussion in Section 4 of the potential for environmental impacts to each area. Unless an alternate citation is provided, the information in this section was obtained from the recently published Final Draft Integrated Natural Resource Management Plan (INRMP) EA (USAF, 2007) and the PAFB General Plan (USAF, 2004).

### **3.1 Air Quality**

This section discusses the climate and meteorology of the area, air quality standards, and existing air pollutant sources.

#### **3.1.1 Climate and Meteorology**

PAFB is located on a barrier island adjacent to the Atlantic Ocean in Brevard County, Florida. Brevard County varies in elevation from 6 feet above sea level at Merritt Island to 26 feet above sea level at the City of Cocoa. The climate is humid subtropical. Temperatures in the County range from about 60° F in January to an average of over 81.5° F in August. There are 350 to 365 frost-free days per year in Brevard County. Annual rainfall averages nearly 57 inches, with the heaviest rain falling in June, July, August, September, and October.

PAFB is located in an area which is vulnerable to hurricanes and associated storm tides. Historic data show that the storm tide height for a Category-5 (strongest) hurricane may reach 17 feet, inundating the entire Installation. The high winds associated with hurricanes also necessitate adherence to special construction codes, established to reduce wind load damage to vertical structures.

#### **3.1.2 Air Quality**

PAFB is located in Brevard County, and Brevard County is an area that is in attainment with National Ambient Air Quality Standards (NAAQS) and Florida Ambient Air Quality Standards (FAAQS).

NAAQS's, established by the U.S. Environmental Protection Agency (USEPA) define the maximum allowable concentrations of pollutants that may be reached but not exceeded within a given time period. These standards were selected to protect human health with a reasonable margin of safety. Section 110 of the *Clean Air Act* (CAA) requires states to develop air pollution regulations and control strategies to ensure that state air quality meets the NAAQS established by USEPA. These ambient standards are established under Section 109 of the CAA, and they currently address six criteria pollutants: carbon monoxide (CO), nitrogen dioxide, ozone, lead, particulate matter, and sulfur dioxide. Particulate matter (PM) has been further defined by size. There are standards for particulate matter smaller than 10 microns in diameter (PM10) and



smaller than 2.5 microns in diameter (PM<sub>2.5</sub>). Each state must submit these regulations and control strategies for approval and incorporation into a federally enforceable State Implementation Plan (SIP). Exceeding the concentration levels within a given time period is a violation and constitutes non-attainment of the pollutant standard. Hazardous Air Pollutants (HAPs) are regulated under 40 CFR 61, National Emission Standards for Hazardous Air Pollutants (NESHAP), and 40 CFR 63, NESHAP for Source Categories.

Stationary sources of emissions are categorized as *major* or *minor*. A major source emits, or has the potential to emit, 100 tons per year of any air pollutant. Under Title V of the CAA, a major source must obtain an operating permit. Furthermore, a major source is also defined as one emitting, or having the potential to emit, 10 tons per year of any single HAP or 25 tons per year total Hazardous Air Pollutants (HAPs), requires a permit, and as specified in 40 CFR 63, the implementation of maximum achievable control technology. PAFB is categorized as a minor stationary source of emissions.

PAFB is not subject to Prevention of Significant Deterioration (PSD) review requirements of 40 CFR 52.21 and CCR Title 5, Chapter 1001, Regulation 3, Part B, Section IV.D.3 because the actual or potential emissions of any criteria pollutant do not exceed 250 tons per year. As a minor source of air emissions, PAFB has an active Title V Air Operating Permit, issued by the State of Florida that covers air emission units, activities, and operations across the Base. The Title V permit (0090021-008-AV) issued to PAFB limits a maximum facility-wide combined HAP emissions to less than 22.0 tons per any consecutive twelve months and any single HAP emission is limited to less than 8.0 tons per any consecutive twelve months, updated monthly, as per Rule 62-210.300(2)(b)1.d., F.A.C. In July 2007, PAFB obtained an All Construction Permit (#0090021-008-AC), which does not expire until June 30, 2012. Activities associated with demolition would be covered under this permit, and are considered insignificant activities (Rule 62-213.430(6), F.A.C.). The permit requires reasonable precautions be taken to control Emissions of Unconfined Particulate Matter. These precautions include: Chemical or water application to unpaved roads and unpaved yard areas; Paving and maintenance of roads, parking areas and yards; Landscaping or planting of vegetation; and Other techniques, as necessary (Rule 62-296.320(4) (c) 2., F.A.C.).

Permits have been relatively easy to obtain and/or renew because PAFB is located within an attainment area, where air quality is not a widespread problem. Florida requires annual emission testing with reports due in March of each year, and no violations have been detected.

According to the Title V Air Operation Permit number 00090021-007-AV, issued to PAFB, stationary sources of emissions at PAFB include:

1. Steam Boilers as follows:

- Boiler No. 2, Central Heat Plant, Bldg. 314 (P314EC2)
- Boiler No. 1, Central Heat Plant, Bldg. 314 (P314EC1)

2. Surface Coating Operations and Petroleum Storage Tanks as follows:

- Spray Booth No. 1, Bldg. 511 (P511PB1)
- Spray Booth No. 6, Bldg. 324 (P324PB1)
- Spray Booth No. 5, Bldg. 331 (P331PB1)
- Spray Booth No. 4, Bldg. 630 (P630PB1)
- Spray Booth No. 2, Bldg. 511 (P511PB2)
- Eleven Jet Fuel Storage Tanks (PASJP1)
- Six Diesel/Biodiesel Storage Tanks (PASDJP1)
- Two Gasoline (including ethanol/gasoline blends) Storage Tanks (PASM0G1)

Also included in this permit are miscellaneous insignificant emission units and/or activities. The permit further states that based on the Title V permit application this facility is not a major source of HAPs.

### **3.2 Soils, Geology, and Topography**

Geological resources discussed in this section include physical features of the earth such as geology (surface and subsurface features), topography, and soils.

#### **3.2.1 Geology and Topography**

The geology of the PAFB is classified as Pleistocene/Holocene Beach Ridge and Dune (FDEP, Florida Geological Survey, 2008). The barrier island on which PAFB is located consists of a system of beach ridges that separate the Atlantic Ocean from a series of brackish lagoons. One of these, the Banana River, forms the Installation's western boundary. The Base is extremely flat, rising only to 15 feet above mean sea level (MSL) at its highest point.

There were no earthquakes within a 100 mile radius of PAFB in the period 1990 through 2006 (USGS, 2008). The USGS's estimated seismic hazards for the project area are very low (USGS, 2008). Therefore it is assumed that earthquakes are not an issue of concern at PAFB.

#### **3.2.2 Soils**

Soils in both the North and Central Housing areas at PAFB are sandy. The Brevard County Soil Survey (NRCS, 2006) identifies four distinct map units within the project boundaries (Table 3-1).

**Table 3-1. North and Central Housing Areas Soil Map Units and Soil Characteristics**

Map Unit Name	Where Found	Drainage	Slope	Ponds? Floods?	Depth to Water Table
Canaveral-Palm Beach-Urban Land Complex	North Housing	Somewhat poorly drained	0 – 2 %	No, No	12 – 36 inches
Canaveral-Anclote Complex, gently undulating	Central Housing	Somewhat poorly drained	0 – 5 %	No, No	12 – 36 inches
Palm Beach Sand	Central Housing	Excessively drained	0 – 5 %	No, No	> 80 inches
Welaka Sand	Central Housing	Well drained	0 – 2 %	No, No	> 80 inches

Source: NRCS Web Soil Survey, October 2006 Certified Data.

As reported above, the topography of the site is nearly flat which would normally indicate that erosion is not a problem at the site.

### 3.3 Water Resources

The hydrologic cycle results in the transport of water between various media such as the air, the ground surface, and subsurface. Natural and human-induced factors determine the quality of water resources. Water resources discussed in this section include groundwater, surface water (including storm water runoff), wetlands, coastal zones, and floodplains.

#### 3.3.1 Ground Water

Groundwater at PAFB occurs under unconfined (water table), semi-confined, and confined (artesian) conditions. The unconfined aquifer, composed of Holocene and Pleistocene age surficial deposits of marine sand, shell fragments, and sand conglomerate of the Anastasia Formation, is recharged by direct infiltration or rainfall. The surficial aquifer underlying PAFB is the major hydrostratigraphic system that can be influenced by Base operations. The water table is generally within five feet of the ground surface. The generalized direction of groundwater flow in the surficial aquifer is westward, toward the Banana River. Localized flow in the surficial aquifer is from topographic highs toward surface waters. Low-levels of VOCs, petroleum hydrocarbons, and heavy metals originating from PAFB Installation Restoration Program (IRP) sites have been detected in surficial groundwater at the Base.

Twenty-six of the Base's forty-six ground water wells supply water for irrigation or support air conditioning systems. The remaining wells have been capped. The Cities of Cocoa and Melbourne provide the Base's potable water (see Section 3.12, Utilities, for more detail). There are no ground water wells within the North or Central Housing areas, although numerous groundwater wells are located immediately adjacent to both sites (Figure 3-1).

### **3.3.2 Surface Water**

Brevard County lies within the Indian River Lagoon Watershed which is located in the St. Johns River Basin. The Indian River Lagoon, the most biologically diverse estuary in North America, straddles 156 miles of Florida's east coast, from Ponce Inlet in Volusia County, south to Jupiter Inlet in Palm Beach County. The St. Johns River Water Management District leads the effort to protect and restore this natural treasure by administering the Indian River Lagoon National Estuary Program, one of 28 national estuary programs funded by the USEPA.

The major surface waters in the project area are the Atlantic Ocean (which bounds PAFB on the east) and the Banana River (which bounds PAFB on the west). The water resources on the Base itself include five man-made ponds totaling 31.3 acres. The Base also contains 4.1 miles of drainage ditches and 40.2 acres of canals. Most of the drainage ditches contain water throughout the year because they intersect the surficial aquifer. Other than drainage ditches and storm water retention ponds, there are no surface water resources located on the North or Central Housing areas (see Figure 3-2).

The storm drainage system for PAFB is a separate system; i.e., it is not combined with the flow of wastewater in the sanitary sewer system. The storm drainage system is "open" in part, and "closed" in part. The open drainage system conveys storm runoff by overland flow (drainage ditches), gutters, channels, and swales, to a point of discharge (Banana River) or constraint (ponds and lakes).

The closed system, installed in 1949, consists of a network of catch basins, pipes (about 17.5 miles), and connections beneath the drainage area. Storm water flows to either the Banana River or the Atlantic, where it is discharged. Storm runoff also percolates into the sandy-type soil.

### **3.3.3 Stormwater Management**

The storm drainage system for PAFB is a separate system; i.e., it is not combined with the flow of wastewater in the sanitary sewer system. The storm drainage system consists of both open and closed (pipelined) conveyances.

The open drainage system conveys storm runoff by overland flow (drainage ditches), gutters, channels, and swales, to a point of discharge (Banana River) or constraint (ponds and lakes).

The closed system, installed in 1949, consists of a network of catch basins, pipes (about 17.5 miles), and connections beneath the drainage area. Storm water flows to either the Banana River or the Atlantic, where it is discharged. Storm runoff also percolates into the sandy-type soil.

### **3.3.4 Floodplains**

Floodplains are lowland, relatively flat areas adjoining inland and coastal waters that are subject to flooding. The 100-year floodplain is that area subject to a one percent or greater chance of flooding in any given year. Proposed actions that involve floodplains are guided by Executive Order (EO) 11988 – *Floodplain Management*. Construction in a floodplain should only occur when there are no other practicable alternatives; in the absence of suitable vacant land outside the floodplain, this area may be considered developable. Care must be taken to ensure that project design and construction incorporate flood-proofing and that the finished floor elevation is above the floodplain.

At PAFB, the floodplain extends seven feet above mean sea level (MSL) on the ocean side, and four feet above MSL on the Banana River side. Potential flooding in these areas would inundate the golf course, the open areas surrounding the runways and taxiways, and most of the North Housing area (Figure 3-3).

Areas of PAFB are currently located within the 100-year floodplain, and approximately 50 percent of the North Housing area is located within the 100-year floodplain. The floodplain impact has already occurred in the North Housing area. North Housing is currently surrounded on three sides by development. The 100-year floodplain area is located just east of Central Housing, beyond the project area boundary.

### **3.3.5 Wetlands**

Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (Federal Interagency Committee for Wetland Delineation, 1989). Wetlands are diverse ecosystems that provide natural flood control by storing spring runoff and heavy summer rains, replenish groundwater supplies, remove water pollutants, and filter and use nutrients. They also provide habitat for many animal and plant species, including economically valuable waterfowl and 45% of the nation's endangered species.

The U.S. Army Corps of Engineers (USACE) regulates those wetlands that are considered waters of the U.S. under Section 404 of the *Clean Water Act* and Executive Order 11990 (Protection of Wetlands). Waters of the U.S. include navigable waters and their tributaries; all waters used, or that could be used, for interstate commerce; or waters used by migratory bird or threatened and endangered species. Waters of the U.S. include perennial and intermittent streams and their tributaries, lakes, and various types of wetlands meeting the above definitions connected to the above-listed features (40 CFR 122.2, 33 CFR 328). A wetland is not considered to be under USACE jurisdiction (and therefore, waters of the U.S.) based on its use and potential use by migratory bird species alone (68 *Federal Register* 10).

PAFB has approximately 37 acres of fresh water habitat created and maintained primarily for drainage and irrigation purposes. These wetlands support various fish, waterfowl, wading birds, reptiles, and amphibians. The Banana River and the Atlantic Ocean also provide saltwater habitat for shoreline and submerged plant species and wildlife. However, there are no wetlands within the North or Central Housing proper, but the Banana River shoreline is an estuarine wetland and borders the western side of the North Housing area (Figure 3-2).

### **3.3.6 Coastal Zones**

Several beaches in Brevard County received a helping hand after 2004's devastating hurricane season. Under two signed agreements, the Minerals Management Service (MMS) provided sand from the federal outer continental shelf (OCS) to restore coastal areas damaged by Hurricanes Charley, Frances and Jeanne. The first agreement is in the form of a noncompetitive lease. Brevard County Officials and the U.S. Army Corps of Engineers used about 2 million cubic yards of federal sand to restore damaged shoreline along the North and South Reach areas of the county. MMS also signed a memorandum of agreement with the USAF to provide up to 350,000 cubic yards of federal sand to restore the Atlantic shoreline of PAFB. The sand was dredged from Canaveral Shoals, then transported to the project sites and hydraulically pumped from the dredge ship to the beach nourishment handling areas (accessed MMS website 2008). This input is in addition to the 600,000 cubic yards of Outer Continental Shelf (OCS) sand that MMS provided to PAFB in 2000 to renourish the shoreline. Other substantial beach renourishment projects have also occurred up to the northern and southern boundaries of the PAFB property in recent years.

Federal consistency is a Coastal Zone Management Act requirement in which federal activities, including development, that may have a reasonable foreseeable effect on coastal resources must be consistent with the state federally approved Coastal Management Program (15 FR Part 930, Subpart C). The Coastal Construction Control Line Program (CCCL) is an essential element of Florida's Coastal Management Program. It provides protection for Florida's beaches and dunes while assuring reasonable use of private property. It is designed to protect the coastal system from improperly sited and designed structures which can destabilize or destroy the beach and dune system. FDEP has established the Coastal Construction Setback Line. Chapter 62B-33, Florida Administrative Code, provides the design and siting requirements that must be met to obtain a coastal construction control line permit. Approval or denial of a permit application is based upon a review of the potential impacts to the beach dune system, adjacent properties, native salt resistant vegetation, and marine turtles. In Brevard County, this zone extends from the mean high water level inland 75 feet to include the natural coastal dunes. Some activities are allowed; however, no new construction projects are permitted in this area. Figure 3-4 shows the relationship between the Coastal Construction Setback Line and the North and Central Housing areas, neither housing area is within the Coastal Construction Setback Line. Although technically

excluded from the provisions of this restriction, the Base adheres to its tenets to the maximum extent possible (east side of State Road A1A), consistent with mission requirements.

### 3.4 Biological Resources

Biological resources consist of an area's vegetation and wildlife, and the habitats in which they occur. This section is divided into discussions of vegetation, wildlife, exotic species, and species of special concern.

#### 3.4.1 Vegetation

Sandy infertile soils, erratic rainfall, and a marine environment make it difficult to establish and maintain vegetation on PAFB. PAFB is relatively flat, and sandy soils drain water quickly, so drought resistant vegetation is best adapted to this environment. Herbaceous vegetation associated with landscape plantings comprises approximately 43 percent of vegetation found around PAFB, including mowed grass; sparse, and dense herbaceous vegetation associated with golf courses, roadways, and the airfield. In the North and Central Housing areas, the majority of vegetation observed was mowed grass. Landscape plantings were observed at the entrance of most residential units. Palm trees were observed throughout the Base, including the North and Central Housing areas.



Representative view of mowed grass; dominant vegetation observed in both housing areas.



Representative view of palm trees observed throughout housing areas.

Mangroves were observed along the Banana River shoreline, along with the invasive species, Australian pine.



Representative view of landscaping in front of residential unit.



Mangrove growing along Banana River (left); Australian pine (right).



Native beach and dune vegetation comprise a limited amount of the Base land area, comprising approximately 3.2 percent of the Base area, located on the east side of State Road A1A. Sand dunes on PAFB support a narrow strip of vegetation bordered by the Atlantic Ocean, State Road A1A, Base Housing, and/or areas of maintained grass. The flora of the sand dunes includes four major elements:

- Common dune or coastal species such as sea oats (*Uniola paniculata*), bitter panicum (*Panicum amarum*), beach sunflower (*Helianthus debilis*), sea grape (*Coccoloba uvifera*), and railroad vine (*Ipomoea pes-caprae*);
- Less common state-listed species such as beach star (*Cyperus pedunculatus*); inkberry (*Scaevola plumieri*), and prickly pear cactus (*Opuntia humifusa*);
- Native species on disturbed or open areas such as ragweed (*Ambrosia artemisiifolia*), beggar-ticks (*Bidens pilosa*), and southern crabgrass (*Digitaria ciliaris*); and
- Invasive species such as sow thistle (*Sonchus asper*) and simpleleaf chastetree (*Vitex trifolia*).

### 3.4.2 Wildlife

Barrier island ecosystems are important natural areas that support a variety of animals. Barrier islands along the Atlantic coast are especially important for nesting sea turtles, populations of small mammals, and as foraging and loafing habitat for a variety of resident and migratory birds (shorebirds, wading birds, and songbirds).

PAFB is located along one of the major migratory pathways for neotropical migrants that breed in eastern North America. Various surveys conducted at PAFB indicate that neotropical migrants use the dune habitat. Migratory birds are protected under the Migratory Bird Treaty Act. Migratory birds must be protected when the birds are present, actively nesting, or have egg/nestlings in the nest. At present, a 45th SW biologist is available to help residents identify migratory birds and determine whether or not they nests are protected in the housing area. Migratory birds have been reported nesting in trees along canals (on Base). The 45 CES/CEV runs general awareness programs on behalf of the base to educate military members and families on resource protection and stewardship. Service calls on private property do not fall under the purview of 45 CES/CEV. The PO will be expected to reimburse the 45 SW biologist for such requested service. A formal reimbursement/support agreement must be in place.

The Atlantic Ocean beachfront and dune system portion of PAFB is located on the east side of State Road A1A. The North and Central Housing areas are located on the west side of State Road A1A, enclosed by a block wall which surrounds the Base. The landscape in the housing areas is maintained (primarily mowed grass), and no natural areas were observed. There is no ocean shoreline or dune ecosystem within the North and Central Housing areas, so wildlife species using these habitats would not be expected within the housing areas. Artificial lighting can affect behaviors of protected sea turtles nesting on adjacent beaches. However, light management is the best way to prevent sea turtles from crawling toward the light source and to prevent disorientation from the ocean.

The lands of North and Central Housing areas proper are not conducive as habitat for wildlife. In accessible areas of the Base, natural ecosystems were not observed. The landscaping is devoid of trees (with the exception of sabal palm trees), and shrubs are generally limited to landscaped areas in front of residences, commercial entrances, and facility entrances. Herbaceous vegetation is primarily mowed grass. Birds do nest in palm trees, especially grackles, and within the landscaping. Killdeer have utilized the swales for nesting, and woodpeckers have utilized dying palm trees for nest cavities. Additionally, birds are also known to utilize housing patios and awnings for nesting (Dattilo-Bain, 2008, pers. comm.). A minimal number of wildlife species were observed during the daytime site visits, conducted on January 30 and February 1, 2008, and included common grackle (*Quiscalus quiscula*), mourning dove (*Zenaida macroura*), seagull, brown pelican, squirrel, pigeon, turkey vulture, osprey, mockingbird, other songbirds, and white ibis (*Eudocimus albus*). Cormorants (*Phalacrocorax auritus*) were observed resting on old dock pilings in the Banana River. A nest platform for osprey (*Pandion haliaetus*) was observed, but osprey were not observed on the platform or in the area, although an osprey was observed in the vicinity of the Base, flying overhead (with a fish).

Reportedly the bald eagle has been sighted in the area, but there are no bald eagle nests within or near the housing areas. Manatees reportedly are found in the Banana River, and sea turtles are documented on the beach side (east of State Road A1A) of PAFB (discussed further below in Section 3.4.4).



Cormorants resting on pilings in Banana River  
(near North Housing Area).

Bird strikes with aircraft are avoided through the Base's implementation of hazard reduction by reducing bird habitat near the airfield critical zones. Landscaping on Base also avoids planting of species that are considered highly attractive to birds with prolific fruit/seed.

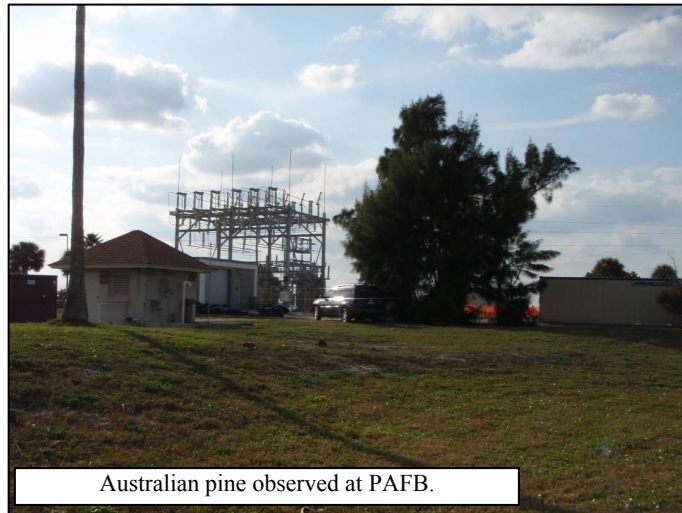
The Banana River shoreline is an estuarine habitat, including sea grass as Essential Fish Habitat that is protected under the Magnuson Stevens Fisheries Act.

### 3.4.3 Exotic/Nuisance Species

The Invasive Plant Species Control Plan for PAFB (2004) has identified known distributions of problem plants at the Base. Brazilian pepper (*Schinus terebinthifolius*) and Australian pine

(*Casuarina spp.*) are two invasive species found at PAFB in undeveloped areas and on the margins of improved/semi-improved areas.

Brazilian pepper is typically found as isolated individuals in dense clumps around buildings and roads, or as long rows around waterways on the southern and western boundaries of PAFB. Australian pines grow singly or as small, dense groves along the coast of the Banana River on the west side of the Base, and around the southeastern end of the airfield. Brazilian pepper and Australian pine were observed on PAFB at the time of the site visit, but neither species appeared to dominate the landscape. FDEP and PAFB personnel have also identified hydrilla (*Hydrilla verticillata*) in the canals at PAFB. Two other species that are considered noxious weeds are present in small numbers include melaleuca trees (*Melaleuca quinquenervia*) on the golf course and isolated patches of torpedo grass around lagoons and ponds on the golf course.



Australian pine observed at PAFB.

None of these exotic/nuisance species are reported to occur within the boundaries of the North or Central Housing areas. However, as stated above, the Australian pine is found along the shoreline of the Banana River, which is the western boundary of the North Housing area. Additionally, one specimen of Brazilian pepper was observed in a residential landscape bed,



Manicured Brazilian pepper tree in landscape bed at residential unit.

likely present due to seed dispersal by birds. Residents are responsible for their own planting beds, and probably cannot identify, or are not aware of, the invasive species. Maintaining the grounds is a part of the Base mission, and the control of invasive species is a component of grounds maintenance, as invasive species were not extensively observed on the Base, in general, or within the North and Central Housing areas.

#### 3.4.4 Threatened and Endangered Species

There is no formally designated critical habitat on PAFB, as defined under Section 4 of the Endangered Species Act. There is critical manatee habitat located in the Banana River, adjacent to PAFB. There are numerous listed mammalian, reptile, amphibian, and bird species known to occur in Brevard County. The current state- and/or federally-listed threatened, endangered, and sensitive animal species known to be present at PAFB include:

- Florida manatee (*Trichechus manatus*);
- American alligator (*Alligator mississippiensis*);
- Atlantic loggerhead turtle (*Caretta caretta*);
- Atlantic green sea turtle (*Chelonia mydas mydas*);
- Leatherback turtle (*Dermochelys coriacea*);
- Hawksbill turtle (*Eretmochelys imbricate*);
- Gopher tortoise (*Gopherus polyphemus*);
- Eastern indigo snake (*Drymarchon corais couperi*);
- Roseate spoonbill (*Ajaia ajaja*);
- Piping plover (*Charadrius melodus*);
- Little blue heron (*Egretta caerulea*);
- Reddish egret (*Egretta rufescens*);
- Snowy egret (*Egretta thula*);
- Tricolored heron (*Egretta*);
- White ibis (*Eudocimus albus*);
- Southeastern American Kestrel (*Falco sparverius paulus*);
- Arctic peregrine falcon (*Falco peregrinus tundrius*);
- American oystercatcher (*Haematopus palliatus*);
- Bald eagle (*Haliaeetus leucocephalus*);
- Wood stork (*Mycteria americana*);
- Brown pelican (*Pelecanus occidentalis*);
- Black skimmer (*Rynchops nigra*); and
- Least tern (*Sterna antillarum*).

Various endangered and/or threatened sea turtle species use the adjacent ocean beaches for nesting and could be affected by activities along the oceanfront. The INRMP for the 45<sup>th</sup> Space Wing (PAFB, 2007) includes specific management plans for sea turtles that are coordinated with other natural resource management plans such as invasive species control and integrated pest management to achieve the optimal habitats for wildlife and vegetation. During the 2007 nesting season, 946 sea turtle nests were deposited on PAFB. Loggerhead nesting comprised 97% of that nesting activity, while 39 green sea turtles and 4 leatherback sea turtles deposited nests on PAFB. The false crawls:nests is generally 2:1 on PAFB for loggerhead and green turtles.

Lights and other human disturbances on the coastline can affect sea turtle nesting success and hatchling behavior. To protect sea turtles, the 45<sup>th</sup> Space Wing developed the 45<sup>th</sup> Space Wing Instruction 32-7001, Exterior Light Management policy. Disorientation events have decreased since the implementation of the light management policy. The Exterior Light Management Policy addresses: all exterior lighting such as porch lights, street, and ball field/recreational during turtle



nesting season. The Light Management policy also identifies appropriate types of lighting, addresses external illumination from interior light sources, and the necessity for well-shielded amber down lighting on homes and buildings. The provisions of this policy apply to the North and Central Housing areas and the residents.

A flock of white ibis (*Eudocimus albus*) were observed in the North Housing area during the daytime site visit conducted at PAFB. This protected species is a wading bird, but can often be seen on lawns looking for large insects. Ibises are usually in the company of other ibises and wading birds when feeding (National Audubon Society, 2001), and the white ibis will forage in freshwater and brackish marshes, salt flats and salt marsh meadows, forested wetlands, wet prairies, swales, seasonally inundated fields, and man-made ditches (FNAI, 2001). Ibises make daily movements, between nocturnal roosts and daytime feeding sites (National Audubon Society, 2001). No evidence of roosting was observed during the (daytime) site reconnaissance visit.



The Marine Mammal Protection Act (MMPA) prevents harassment (disruption of natural behavioral patterns including migration, surfacing, nursing, breeding, feeding or sheltering), hunting, capturing, or killing of polar bears, sea otters, marine otters, whales, porpoises, walrus, seals, sea lions, dugongs, and manatees. Of this list, the West Indian Manatee (*Trichechus manatus*) is one of the only MMPA protected marine mammals known to inhabit the salt-water lagoon systems of the Banana and Indian Rivers. The manatee is federally listed as endangered due to the low population level within the continental United States. The U.S. Fish and Wildlife Service have designated the Indian and Banana Rivers as critical manatee habitat (PAFB, 2002). At PAFB, the manatee can be occasionally observed in the marina area, in canals near the airfield, and within the Banana River near the shoreline adjacent to PAFB (PAFB, 2007). The outdoor recreational staff members at PAFB require users to attend a boater safety course which covers manatee protection measures, and manatee awareness signs are posted at the boat ramp and docking areas at the Marina and Outdoor Recreation docks of PAFB (PAFB, 2007). The Florida Fish and Wildlife Conservation Commission (FWC) issued manatee protection requirements to be inserted in contracts for construction projects that will be working in waters that support the protected manatee (PAFB, 2007). However, the proposed action is not anticipated

to occur in manatee habitat, and the implementation of Best Management Practices (example, silt fencing) would protect the Banana River habitat from sediment deposition and storm water events.

Although not anticipated, in the event the proposed action would potentially impact the adjacent Banana River habitat (for manatees, migratory birds, or fish habitat), the PO would be required to conform to the requirements of the Endangered Species Act (ESA), MMPA, FWC, Brevard County, the U.S. Army Corps of Engineers; and obtain appropriate permits, as needed.

A moderate number of mangroves (protected species) were observed growing along the Banana River in the area of the North Housing area. The mangrove is protected by a Florida law, the Mangrove Trimming and Preservation Act (1996), which regulates the trimming and alteration of mangroves. FDEP has been given the responsibility of implementing the law.

No federally listed rare or endangered plant species are known to occur on PAFB. However, several state-listed plants and/or plants that are protected for pruning/cutting are known to occur at PAFB, including:

- Spider lily (*Hymenocallis caroliniana*);
- Beach star (*Cyperus pedunculatus*);
- Inkberry (*Ilex glabra*);
- Prickly pear cactus (*Opuntia lasiacanta*);
- Sea oats (*Chasmanthium latifolium*);
- Seagrape (*Coccoloba uvifera*);
- Black mangrove (*Avicennia germinans*);
- White mangrove (*Laguncularia racemosa*); and
- Red mangrove (*Rhizophora mangle*).

### **3.5 Human Health and Safety**

A safe environment is one in which there is little or no potential for death, severe injury or illness, or property damage. The parcels proposed for privatization in this project are residential areas, and thus the primary public safety concern is traffic incidents in residential areas. Presently PAFB personnel mitigate traffic safety through strict surveillance of posted speed limits. Additionally, several housing yards are fenced to prevent easy access to roadways by children.

Other potential safety risks in the North and Central Housing areas are those due to hazardous materials used in residential areas. Pesticides are applied to landscaped areas within housing areas in accordance with the Integrated Pest Management Plan (PAFB, 2006). Children are more sensitive to some environmental effects than adults, including those resulting from exposure to pesticides. The Integrated Pest Management Plan (IPMP) requires that at no time will pest management operations be done in a manner that will cause harm to personnel or violate labeled use. The objectives of the IPMP are to establish and maintain safe, efficient, and environmentally sound Integrated Pest Management (IPM) programs for PAFB. The IPMP considers priorities

based on non-chemical control measures, and appropriate use of pesticides and herbicides to control pests and nuisance vegetation within the Installation.

The Integrated Pest Management Plan has two major functions

- A program that controls pests or reduces pest damage using integrated pest management, and
- Describes methods of storing, handling, preparing, mixing and applying pesticides within that program.

For grounds maintenance, insect and disease problems are controlled by certified government technicians, or contractor pest management technicians. Pesticides and herbicides are applied as directed by the IPMP (PAFB, 2006). In cases where landscape vegetation is infested or subject to disease, the grounds maintenance contractor identifies the problem to the pest control contractor and the appropriate pesticide is applied in accordance with the IPMP (USAF, 2007). The Plan is considered a working document that is updated annually to reflect pest management practices, and to introduce appropriate new technology for pest control (PAFB, 2006). Pesticides are not applied inside the houses as a preventative measure but as a result of observations and on an as needed basis. Large scale pesticide application (such as that typical of farming operations) has not occurred on the PAFB housing areas. No sheds containing pesticides were located within the housing areas.

Since the residences in the North and Central Housing areas were constructed in 1995 or later, it has been assumed that for this EA, neither asbestos nor lead based paint exposures are expected to be present at the site. However, these residences were constructed prior to the more stringent building codes established in 2002 in response to hurricane impacts, so these structures could be considered less safe during hurricanes than residential structures built after codes were put in place.

### **3.6 Solid Waste and Hazardous Materials**

#### **3.6.1 Solid Waste**

Solid wastes include all waste materials that are neither hazardous nor toxic, and which are normally disposed of by landfill, incineration, or recycling/recovery. Debris is considered a municipal solid waste, with disposal governed under the Resource Conservation and Recovery Act (RCRA) of 1976. Construction and demolition (C&D) debris is also regulated at the state level; however, state programs vary in regards to what is considered C&D debris and implemented disposal restrictions.

In accordance with Air Force Instruction (AFI) 32-7042, *Solid and Hazardous Waste Compliance*, and AFI 32-7080, *Pollution Prevention Program*, PAFB strives to recycle as much of their solid waste stream as possible. In the past waste material produced from the process of

construction, renovation, or demolition of structures was placed in landfills, which is economically and environmentally costly. C&D debris is easily diverted from landfills through source reduction, recycling, and reuse.

The management of solid wastes at PAFB includes the collection and disposal of solid wastes and recyclable material by contract. Recyclable items include cans, newspapers and other paper, plastic, glass, aluminum, ink cartridges, cardboard, and electronics. There are no active landfills at PAFB; solid waste is hauled off-base to the Brevard County Landfill by contractors. Solid waste is collected twice per week (Tuesday and Friday) by Waste Pro of Florida, Inc. and recycled items are collected every Tuesday by the Association for Retarded Citizens (ARC) for the North and Central Housing areas. PAFB contracts commercially for the removal of industrial waste (Vista Technologies, 2001).

Five landfills within PAFB were used between the early 1940's and 1972. The four landfills (Solid Waste Management Units (SWMU's) P022, P023, P024, and P025, (aka. Landfills 1-4) were used between 1940 and 1961 and were also known as LFX. Landfill P026 (aka Landfill #5 or LF-27) was operated between 1962 and 1972. It is located in the same proximity, but on the western peninsula of the barrier island. LFX and LF-27 area currently under land use controls and monitored on a five year basis for contaminant migration. Currently, it is managed under the Land Use Controls program as part of the 45<sup>th</sup> SW IRP by the Cape Canaveral and Patrick Environmental Restoration Partnering Team. Landfill #1 is a large landfill that underlies the southern portion of the Central Housing area (Figure 3-5). Landfills on the site may contain a number of different categories of waste, including general refuse, waste oils, paint cans, paint slops, spray booth filters, asbestos, Polychlorinated Biphenyl's (PCB) filters, and pesticide cans (PAFB, 2004). This former landfill is currently under a Long Term Monitoring Program and is sampled every 5 years. The Florida Department of Environmental Protection requires the landfill to be monitored with proper Land Use Controls. Monitoring is being conducted to ensure that no contamination is migrating out of the landfill and is currently projected to be conducted until 2028, but will be programmed out through the next century.

### **3.6.2 Hazardous Materials, Wastes and Petroleum**

Hazardous materials are substances that, because of their quantity, concentration, or physical/chemical/infectious characteristics, may present a danger to public health or the environment if released. When improperly stored, transported, or otherwise managed, hazardous materials can adversely affect human health, safety, and the environment. These materials are defined within various regulations to have specific meanings. For this EA, substances identified as hazardous by the *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA), as well as petroleum products, are considered hazardous materials.



The use or release of a hazardous material usually results in the generation of a hazardous waste. Examples of hazardous wastes include contaminated fuels and spent or off-specification solvents, paints, and thinners. Hazardous wastes, as defined for this document, include those substances identified by the *Resource Conservation and Recovery Act* (RCRA). Special wastes include wastes that require special handling (e.g. used oil, dewatered sludge, etc.) and are also tracked and managed by PAFB.

Hazardous wastes and toxic materials in the housing areas are restricted largely to household building materials and typical household chemicals. The use and storage of hazardous materials and wastes including petroleum and oils are not known to be a concern in the North and Central Housing areas at PAFB. Pesticides are applied in the North and Central Housing areas in a manner consistent with residential use. As would be expected in any residential area, minimal petroleum staining in areas where vehicles were parked was observed. These areas included garages and driveways, but the stains were not substantial and were not the result of large quantity releases of petroleum products.

According to Ms. Debra Hornback, PAFB Housing Maintenance, pesticides are not applied inside the residential units as a preventative measure but as a result of observations and on an as needed basis. Large scale pesticide application (such as that typical of farming operations) has not occurred on the PAFB housing areas. No sheds containing pesticides were located within the housing areas, and no above ground storage tanks were observed.

The PAFB General Plan (2004) lists thirty separate Air Force IRP sites within the PAFB boundary. As of 2004, twenty eight of these sites are classified as either proposed for closure or under long-term monitoring. There are no IRP sites within the North Housing area with the possible exception of an old shooting range where a duplex is currently located. The Military Munitions Response Program is currently investigating this area in North Housing (Bowers, 2008, pers. comm.). The nearest IRP site for this location is located approximately 0.25 miles southwest of North Housing Boundary (Figure 3-5). The Central Housing area overlies a portion of an IRP site within the southwest corner of its boundary (Figure 3-5). Approximately 17,460 square meters of the 54,000 square meter IRP site is located within this housing area. Several other IRP sites are located directly adjacent to the Central Housing area, due west of the Central Housing boundary.

The southwest corner of the Central Housing area is within the boundary of a former Landfill (Landfill #1). There are two monitoring wells located on the subject property and is managed under the Land Use Controls, Long Term Monitoring (LTM) program, as part of the 45<sup>th</sup> SW IRP by the Cape Canaveral and Patrick Environmental Restoration Partnering Team. Testing is conducted every 5-years to determine if compounds are leaching from the landfill boundaries. No elevated parameters were detected in the most recent samples collected at these wells (December of 2005). During the site reconnaissance, Lift Station 979 (located within the North

Housing area) was not working properly. The grass/soil in the vicinity of lift station was saturated with water and the nearby transformer, identified as Number 10, was covered with rust.

A former switch station (SWMU No. P115) is located in the northern portion of PAFB, at the northwest corner of the industrial area and at the southwest corner of North Housing. The former switch station was present in that area for an unknown period of time and has been demolished. Facility 295, a working switch station, is located just to the north and was presumably constructed to replace the former unit. The site was identified as an area of concern under the IRP due to its long history as a switch station. Historically, electrical equipment often contained polychlorinated biphenyl (PCB)-dielectric fluid. Leaks or spills of PCB-containing dielectric fluid have the potential to adversely impact the surrounding environmental media. According to documentation found in the Administrative Record, a No Further Action determination was issued based upon a successful Interim measure that removed all contaminated soil where PCB concentrations exceeded residential FDEP Soil Cleanup Target Levels (SCTLS) (Bowers, personal communication). None of the PCB soil contamination detected during initial sampling or later delineation approached the FDEP leachability standard [17 milligrams per kilogram (mg/kg)]. Therefore, groundwater sampling was not deemed necessary by the IRP team. Surface water and sediment do not exist in the immediate vicinity of the facility.

The Atlantic coastal beach is an area of concern regarding potential impacts from hazardous materials. Unusual containers and suspicious items that wash ashore are evaluated for removal, testing, and disposal.

### **3.7 Noise**

Noise is sound that interrupts, annoys, injures, or interferes with normal activities or otherwise diminishes the quality of the environment. Noise can be described as intermittent or continuous, steady or impulsive, stationary or transient.

The Central and North Housing areas proposed for privatization in this project lie within the boundary of PAFB. The parcels are presently occupied by residential structures. As such, noise levels are consistent with residential areas. Noise generated within the housing areas is primarily intermittent, impulsive, and transient, and is most closely associated with traffic and residential uses (lawn mowers, air conditioners, etc.). Other noise sources in the area are typically temporary and associated with construction activities. These noises are commonly limited to the daytime hours.

Housing on Base is subject to aircraft and other noises due to mission operations. The 920<sup>th</sup> (Rescue Wing) RQW routinely conducts nighttime flying activities, and transient aircraft have been authorized to perform training maneuvers at night. Central Housing is closer to the Department of State hangar, so aircraft noise is noticeable during the daytime hours. The *Air*

*Installation Compatible Use Zone (AICUZ) Program* was established by the Department of Defense in response to the Noise Control Act of 1972 to promote an environment free from noise that jeopardizes public health or welfare. The USAF has developed the *AICUZ* program to protect airfields from encroachment and incompatible land development. The 45<sup>th</sup> Space Wing has a variety of flights coming and going on a daily basis. As such, noise associated with aircraft operation may be heard. The majority of the flying operations occur during daylight hours. Both the North and Central Housing areas are located in close proximity to the runways, but both housing areas are outside the 65 day night average Level (Ldn) decibel noise contour (models based on June 1999 data).

A more detailed discussion on noise sources and constraints is contained in the PAFB General Plan (USAF, 2004).

### **3.8 Cultural Resources**

Cultural resources are archaeological, historical, and Native American items, places or events considered important to a culture, community, tradition, religion or science. Archaeological and historic resources are locations where human activity measurably altered the earth or left deposits of physical or biological remains. Prehistoric examples include arrowheads, rock scatterings, and village remains, whereas historic resources generally include campsites, roads, fences, homesteads, trails, and battlegrounds. Architectural examples of historic resources include bridges, buildings, canals, and other structures of historic or aesthetic value. Native American resources can include tribal burial grounds, habitations, religious ceremonial areas or instruments, or anything considered essential for the persistence of their traditional culture.

According to the PAFB Cultural Resource Management Plan (NSA, 1996), there are no known archaeological resources on PAFB. There are 61 existing facilities that are eligible, or potentially eligible for listing on the National Register of Historic Places (NRHP). However none are found in the North or Central Housing areas.

### **3.9 Land Use**

Land use consists of natural conditions or human-modified activities occurring at a particular location. Land use categories at PAFB include administrative, aircraft operations/maintenance, airfield, commercial, service, housing, industrial, launch and range control, medical, open space, outdoor recreation, and water. The dominant land use on PAFB is associated with the airfield and airfield operations, include the requirement for clear zones. Management plans and zoning regulations determine the type and extent of land use allowable in specific areas and are often intended to protect specially designated or environmentally sensitive areas.

The real estate at PAFB proper (without the South Housing area) totals 2,002 acres. The grounds consist of all land and water acreage for which the 45<sup>th</sup> Space Wing Commander has

responsibility. The predominant land use at PAFB is the 728 acre airfield. Family housing (not privatized) on PAFB occupies 102 acres, and is divided into two distinct neighborhoods: North Housing and Central Housing. The South Housing and SOH areas are currently privatized. Industrial land use encompasses 217 acres; administrative, 75 acres; community commercial, 73 acres; community service, 12 acres; unaccompanied housing, 23 acres; and medical, 22 acres (USAF, 2004). Reportedly (USAF, 2004), there were 329 acres of open space within PAFB, but much of this open space is found along the Atlantic Ocean, which is not developable.

PAFB is located north of the City of Satellite Beach, and south of the City of Cocoa Beach, on a barrier island that is bordered by the Banana River on the west and the Atlantic Ocean on the east. Land uses immediately north and south of the Installation are within the unincorporated area of Brevard County. These areas are currently developed primarily as residential uses. Residential land uses adjacent to the northern Base boundary are compatible with the residential uses existing and planned for the north end of PAFB. Residential land uses immediately south of the Base (on the opposite side of Pineda Causeway) are compatible with the adjacent Installation land uses (Marina and Golf Course). Since the east and west boundaries of PAFB front on shorelines, there are no encroachments of civilian land uses along either of these boundaries.

The *Programmatic EA for Operation and Maintenance of PAFB, Florida* (1998) provides a more detailed description of land use on the Base.

### **3.10 Traffic and Transportation**

Traffic and transportation issues refer to the movement of vehicles and humans throughout a road network. State Road A1A passes directly through the east side of the Installation, separating the main Installation from the beach areas. During peak Terrorist Threat Condition (Threatcon) periods, State Road A1A may require closure and re-routing of traffic from this important roadway. PAFB has three controlled gates, Main, Central, and South. The Main Gate provides access from State Road A1A to Jupiter Street in the Main Base Area. The south gate provides access to the Pineda Expressway at the south end of the Base, via South Patrick Drive. The Central Gate is the primary truck inspection gate for the Installation. The roadway network within PAFB is maintained and appears fully adequate to support Base transportation.

There are short morning delays for vehicles that are northbound on State Road A1A and wish to make a left turn through the Main Gate at PAFB. The traffic signal at this location gives maximum green-time to the turning movement. However, this backup on State Road A1A is cause for concern due to the high speed of traffic on this highway. Recommendations have been made to relocate this Gate further inside the Base, for security and traffic safety reasons. The Pineda Expressway brings traffic to the south gate of PAFB, but only offers access to eastbound traffic. There are traffic back-ups onto the Pineda Causeway exit ramp at peak times at the south gate.

Traffic throughout PAFB is dominated by personal vehicles. Public transit bus routes do not serve the Base. There are no bus services within PAFB. Brevard County operates the Space Coast Area Transit system, providing public transit services to all of Brevard County, including fixed route and paratransit services. There is also a Van Pool program operated to provide assistance to groups of commuters and various social service agencies. The Space Coast Commuter Assistance program provides services such as carpool matching, ridesharing, and telecommuting information in order to encourage alternatives to the use of single occupant vehicles.

PAFB has an extensive surface transportation network. The on-base transportation network has three components: roadways, parking, and pedestrian and bicycle facilities. The roadway network at PAFB is made up of an arterial, collectors, and local roads. There is only one arterial (South Patrick Drive) on the Base. This arterial carries the majority of the north-south traffic and connects most areas of the Base. South Patrick Drive runs from the south gate at Pineda Expressway to the intersection of O'Malley Road and Atlas Avenue, in the Main Base Area. It provides primary access to the southern Base area including the Central Housing area, the Base Exchange, Commissary, Medical Clinic, Golf Course, and Marina. South Patrick Drive is partially 4-lanes (south of the South Tech Drive intersection) and partially 2-lanes (north of South Tech Drive). It also extends south of the Installation to the City of Satellite Beach, serving the South Housing area.

There are several collector roads on the PAFB roadway network. Among them are: Jupiter Street, Atlas Avenue, O'Malley Road, Falcon Avenue, and Spacelift Avenue. Jupiter Street provides access to the main gates and to State Road A1A. Atlas Avenue is a 2-lane collector that runs from O'Malley Road to the River Industrial Area. Falcon Avenue and Spacelift Avenue are 2-lane collector roadways that provide north-south access in the Main Base Area.

Parking facilities at PAFB consist of paved and unpaved surface parking lots. The Main Base Area has numerous parking areas, although not all lots are located directly adjacent to the buildings they serve. Some facilities, such as Air Force Technical Applications Center (AFTAC), currently have an inadequate number of parking spaces to serve the personnel. Finally, there are inadequate parking spaces to serve the Golf Course/Marina Area during peak usage.

Pedestrian facilities in the Main Base Area include sidewalks, boardwalks, and crosswalks. Pedestrian facilities in other areas of the Base are very limited.

There is a bicycle path that runs along State Road A1A through the Central Housing area connecting with the Education Center area and continuing along Pineda Expressway within the Base.

There is no rail service available with PAFB. The nearest commercial airport is the Melbourne Regional Airport, about 12 miles south of PAFB.

Traffic in the Housing areas is typically highest during daylight hours, primarily from personal vehicles and including school bus traffic.

### **3.11 Socioeconomics and Environmental Justice**

The emergence of the space coast as a center for military and space technology has contributed greatly to the regional economy. The presence of CCAFS, Kennedy Space Center, and PAFB have led to the convergence of a large number of defense contractors within Brevard County, and has attracted a number of high tech and aeronautical employers to the region. The presence of these employers and the DoD provides a combined 50,000 jobs and an economic value that exceeds one billion dollars (PAFB General Plan, 1996).

PAFB, as a major employer in Brevard County, impacts the local economy through direct employment of civilian and military personnel as well as through local procurement of goods and services. Over 13,000 people are employed by regional activities of the 45<sup>th</sup> Space Wing (PAFB and Cape Canaveral Air Force Station), with annual collective salaries totaling more than \$240 million (PAFB General Plan, 1996).

Recreational activities offered through PAFB and the surrounding beaches abound. PAFB offers an extensive recreational program with numerous facilities and activities. Outdoor recreational activities utilizing Base lands include golf, fishing, swimming pools, playing fields, and the marina convenient to family housing areas. A youth center recreation area is also located in the south housing area (Vista Technologies, 2001)

#### **3.11.1 Population**

Brevard County, Florida had an estimated total population of 534,359 in 2006 (U.S. Census Bureau, 2006). Population has grown at an average annual rate of 12.2% between April 2000 and June 2006 (U.S. Census Bureau, 2000a). This growth is forecast to increase 8.4% for a total population of 635,200 by 2020 (EDR, 2008).

Demographic data for Brevard County compared to the state of Florida are summarized in Table 3-2.

**Table 3-2. Demographic Characteristics of County and State**

	<b>Brevard County</b>	<b>State of Florida</b>
Households	198,195	6,337,929
Average Household Size	2.35	2.46
Median Household Income	\$44,248	\$40,900
Total Population	534,359	18,089,888
<b>Age (years)</b>		
Birth – 18	22.2%	24.6%
18 – 64	61%	63%
> 64	16.8%	12.4%
Median Age (years)	41.4	38.7
<b>Race</b>		
White	80.2%	80.1%
African American	15.8%	12.8%
Native American	0.4%	1.0%
Asian American	2.2%	4.4%
Native Hawaiian or Pacific Islander	0.1%	0.2%
Hispanic or Latino	20.2%	14.8%

Source: (US Census Bureau, 2006)

### 3.11.2 Employment and Income

The unemployment rate in Brevard County was estimated at 3.3% in 2006 compared to the state and national unemployment rates of 3.3% and 4.6%, respectively (EDR, 2008; U.S. Department of Labor, 2007). In 2003 the County's three largest employers were the school board of Brevard County with 8,222 jobs, United Space Alliance with 6,400 jobs, and Health First with 5,958 jobs.

As stated above in Table 3.2, the median household income in Brevard County was \$44,248 in 2006, compared with \$40,900 for the state of Florida.

### 3.11.3 Community Facilities and Services

Of the 222,072 housing units in Brevard County in 2006, about 10.8% were vacant while the corresponding vacancy rate for the State of Florida was 13.2% (U.S. Census Bureau, 2000b). Approximately 89.3% of occupied housing units in Brevard County are owner-occupied, and the homeowner vacancy rate stood at 2.3% in 2000. The rental vacancy rate was 10.6% in the County compared to 9.3% for the State of Florida. The median monthly rent in Brevard County was \$604 in 2000. Of the 168 housing units



in the North Housing, and 175 housing units in Central Housing areas at PAFB, about 26 % and 35 % were vacant, respectively, in 2007.

There are 89 public schools in Brevard County; 58 elementary schools, 16 middle schools, and 15 high schools. The schools that serve the families living at PAFB include: an adult education center (Education Services & Human Resource Flight) surrounded by land in the Central Housing area. That facility would not be conveyed as part of the proposed action.

Hospital care is available at the following public hospitals located in Brevard County: Adare Medical Center, Brevard Mental Health Center and Hospital, Cape Canaveral Hospital, James E. Holmes Medical Center, Health First, Parrish Medical Center, and Wuesthoff Health System. The closest is Health First Hospital, located 10.5 miles from the Main Gate. Numerous doctor offices and specialized diagnostic facilities are located throughout the County. Additional health care facilities available to military personnel associated with PAFB include the Medical Clinic, Dental Clinic, and Medical Compound/ Administration buildings, all located at the southern end of the Installation, east of South Patrick Drive and the south gate.

Social services provided in communities are typically based upon the demographic of the community. Social services in Brevard County are primarily provided by private agencies. Examples include: Children's Home Society, Child Care Association of Brevard County, Junior League of South Brevard, and United Way. Currently there are 103 day care centers located in Brevard County.

Public safety on the Base is provided by the Base personnel. PAFB residents are served primarily by the Base military police. Brevard County Sheriff's Department would provide services on an as-needed basis. PAFB is served by one main fire station (Building 810) that was constructed in 1952. Currently, this station has ten bays, eight on the west side that access the airfield, and two on the east side that access the Base proper. Reciprocal fire protection arrangements have been effected with local communities and with the Fire Department at Cape Canaveral Air Force Station. The Base Fire Department is the first responder, and Emergency Medical Services on the Base are provided by area hospitals.

Recreational facilities are available to residents of PAFB at a variety of on-base facilities, including:

- The Marina, with dry storage in the southwestern portion of the Base;
- The Golf Course, also in the southwestern portion of the Base;
- The "Chevron Park", located along the Banana River;
- The "Fam Camp" area, also located along the Banana River; and
- Several beachfront picnic areas.



Other notable Outdoor Recreation facilities include a large neighborhood park located in the Central Housing area and several smaller pocket parks for residents in the North Housing area. Other facilities on-base include basketball courts, tennis courts, jogging path and fishing piers in North area of the Base. Other facilities also include the Outdoor Recreational facility and its boat and other sports related rentals on the river, and the auto hobby shop (McDonald, 2008, personal communication).

PAFB offers a wide range of community service facilities for PAFB personnel and their families, including a Base Exchange (BX), Commissary, Burger King, Gas Station and Satellite Pharmacy. All of these functions are located near the southern end of the Base, east of South Patrick Drive. Other community commercial facilities include the Satellite Base Exchange (Shoppette), Dining Hall, and associated warehouse facilities, which are located near the Main Base Area. The PAFB Officer's Club/Community Club and Enlisted Club are located outside the Installation proper, east of State Road A1A, along the coastline. Some of the Community Service land uses on Base include a Chapel, Library, Post Office, and Environmental Health Offices. These functions are all situated in the Main Base Area. Also located in the Main Base Area are the Gymnasium and racquetball courts.

### **3.12 Utilities**

Generally, the utilities for PAFB are meeting demands. The critical utilities of sewer, water, and power, have the capacity to serve Base expansion.

#### **3.12.1 Water Supply**

The City of Cocoa is contracted to supply potable water safe for human consumption to PAFB; up to 6,500,000 gallons per day to PAFB and CCAFS. The City's water is delivered through a 16-inch water main entering PAFB at the intersection of the north boundary of the Base and State Road A1A, where it is further chlorinated and distributed throughout the Base through two 12-inch metered service mains. New treatment facilities were installed to the Building 209 pump station in a 2001 project (New Pump House). A water quality monitoring system was also installed in 2002 to track chlorine, pH, ammonia, and pressure.

Minimum potable water usage at PAFB is approximately 1,000,000 gallons per day (gpd), primarily in the winter months. Maximum usage at PAFB is about 3,648,000 gpd, occurring during the summer months. In addition to the water supplied by the City of Cocoa, the City of Melbourne agrees to furnish 1,000,000 gallons of water per day, as needed. PAFB will reciprocally provide the City of Melbourne with 1,000,000 gallons of water per day, as needed and as available. PAFB is tied into three separate City of Melbourne water mains: a 16-inch main at Patrick Drive and State Road A1A, a 12-inch main at Aruba Drive and South Patrick Drive, and a 10-inch tie-in at the east end of South Poinciana Drive.

Another source of water, although non-potable, is a deep-well system, which draws from the Florida Aquifer system. The water from the wells is corrosive in nature and has an excessive amount of chlorides and total dissolved solids, which exceed the Florida Water Drinking Standards. Well water is used only in commercial and some common areas where feasible. The yield of active wells is approximately 760 million gallons per year (mgd).

The total domestic water capacity of elevated and ground-level tanks is 1,350,000 gallons. Since the water towers currently operate at lower pressure than the distribution system, stored water is available as an emergency supply only. Recirculation systems were recently added to the water tanks in Central and Main Base.

The supply of domestic water from the City of Cocoa is more than adequate, at present. If more water is needed, arrangements with the City of Cocoa could be effected. If required, the City of Melbourne could also provide water. PAFB does not currently have the necessary equipment to treat and filter water that can be drawn from the non-potable deep-well system. Therefore, this is not an acceptable alternative water source for human consumption at this time. The supply of non-potable re-use water from the City of Cocoa Beach is currently strained. The daily supply during summer months is currently 800,000 gpd, 3 days per week. The peak (drought) demand for this water, which is used to irrigate the Golf Course and some Housing common landscape areas, exceeds one million gpd. Thus, the supply of re-use water for irrigation is less than adequate, and potable water must be used to make-up the difference during times of drought.

The majority of the potable water mains were installed and upgraded at various times between 1952 and 1958; exceptions are all-new mains in the Central and North Housing areas. The water pump stations are 40 years old, on average. Much of the newer piping is PVC, but some asbestos-cement pipe or ductile-iron pipes remain (both are usually unaffected by corrosive soil conditions). Although the water mains are in relatively good condition, the 2-inch galvanized steel pipes, used as water service lines, are deteriorating because of corrosion. Considering the water distribution and pump system's age, a phased repair and replacement project is recommended as an out year project. Maps of North and Central Housing water lines are provided in Figures 3-6 and 3-7 respectively.

The Base uses treated wastewater effluent, provided by the City of Cocoa Beach, for irrigation. The City constructed a 16-inch reuse water supply line to the north end of PAFB. From there, a 14-inch reuse main runs along the west side of the Base to the lake and furnishes irrigation water for the Golf Course, the Central and North Housing areas, the Base Exchange, and the Hospital's landscaped areas. Projected availability of reuse water is a maximum of 500,000 gpd with an option, being considered, to supplement reuse water with ground water. Maps of North and Central Housing wastewater lines are provided in Figures 3-6 and 3-7, respectively.

### **3.12.2 Sanitary Sewer**

The City of Cocoa Beach treats wastewater generated at PAFB. The Base's wastewater is conveyed to the City of Cocoa Beach for treatment via lift station #650. The Water Reclamation Department of Cocoa Beach, in turn, provides treated wastewater to PAFB via a Reuse Water System for irrigation purposes. All utilities and related infrastructure will be the responsibility of the PO to include arranging for all services to be provided directly from the provider.

The majority of the sanitary sewer lines are gravity lines, although force mains exist in some areas. The sanitary sewer system moves effluent through approximately 47 miles of underground sanitary sewer lines to the wastewater treatment plant of the City of Cocoa Beach, six miles away. The vitrified clay and PVC gravity sewer lines are reported to be in fair condition. The force mains are steel and PVC, and are reported to be in good condition. Service connections of cast iron material are showing degrees of deterioration from internal corrosion.

Adjacent to the new north lift station is a 140,000-gallon wet-well, designed to store wastewater prior to pumping to the City of Cocoa Beach for treatment. There is a standby tank, adjacent to the new south lift station that gives the Base the capability to hold wastewater six hours (with appropriate water rationing and low-use restrictions in South Housing) in the event a force main becomes temporarily inoperable.

Wastewater generated on Base includes domestic wastewater, and small quantities of typically deposited industrial waste, e.g. solvent mixtures. New sewer lines service the North and Central Housing areas.

At full occupancy of the North and Central Housing areas with currently available housing units, estimated average daily flow of wastewater will be 360,000 to 400,000 gpd. By contract with the City of Cocoa Beach, the City has reserved a treatment capability of 2.0 mgd PAFB. The contract will be annually reviewed for reserved peak flow adjustment, as necessary. Using the present reserved flow capacity of 2.0 million gallons per day (mgd) and average daily flow of 380,000 gpd ( $360,000 \text{ gpd} + 400,000 \text{ gpd} \div 2$ ), there is a residual capacity of 0.820 mgd ( $1.2 \text{ mgd capacity} - 0.380 \text{ mgd use}$ ).

### **3.12.3 Electricity, Heating/Cooling, Natural Gas, Telecommunications**

Power for PAFB is supplied by FP&L at a transmission voltage of 138 kilovolts (kV). Transmission lines connect to a North Substation and a South Substation, both owned by FP&L. The substations convert the incoming 138 kV electricity to a nominal distribution voltage of 13.2 kV, and then route the power to government-owned switchgear located adjacent to the substations. Electricity is then distributed throughout the Base via feeder lines from the substations. PAFB's historic peak load is well below either substation's capacity. Allowing for 2.5 kilowatt (kW) per capita as provided by electrical design criteria, and a power factor of 0.9,

PAFB has the capacity to accommodate a population increase of 7,261. Maps of electric cable utilities within the North and Central Housing areas are provided in Figures 3-6 and 3-7, respectively. Maintenance and repairs to electrical utilities has been described in the 2004 General Plan (USAF, 2004) and under the Base's Electrical Distribution Long Range Infrastructure Improvement Plan.

Heating and cooling in the North and Central Housing areas are not connected to the Central Heating Plant. Heating in the housing areas is by gas (either furnace or gas heated hot water) and cooling is by electricity.

Natural gas is supplied to PAFB by City Gas Company. One four-inch line enters the Base from the north, a second four-inch line enters at the Air Force Technical Applications Center (AFTAC), and a two-inch line enters from the south. There is no limit on gas supply. City Gas has recently installed gas lines into the North and Central Housing areas. A map of existing natural gas lines in the North and Central Housing areas is provided in Figures 3-6 and 3-7 respectively.

PAFB voice and data communications are supported by a complex system of underground fiber optic and copper cable. Residential telephone in the North and Central Housing areas is provided by AT & T. Cable service is provided by Brighthouse Cable of Central Florida.

## 4.0 ENVIRONMENTAL CONSEQUENCES

The following describes the environmental consequences of the Proposed Action and the No Action Alternatives to each of the environmental factors mentioned in Section 3.0. The significance of the effects of the Proposed Action on the character, features, and resources of the site is evaluated, and mitigation opportunities are discussed where appropriate.

### 4.1 Air Quality

The analysis below was based on a review of existing air quality in the region, information on USAF air emission sources, projections of emissions from the proposed activities, and a review of the Federal and Florida regulations for air quality. Emissions from construction and operation of the proposed facilities were analyzed.

#### *Preferred Alternative (50-Year Lease)*

The proposed demolition of the 71 housing units in Central Housing would result in the short-term generation of criteria pollutants from grading and excavating operations, heavy equipment, contractor worker vehicles, and heavy trucks driving on paved and unpaved roads. Particulate matter (PM10 and PM2.5) is generated during ground-disturbing activities and during combustion. Although the exact location of the 71 housing units planned for demolition is not known at this time, a portion of the approximately 52 acres (Central Housing) would be disturbed with the proposed demolition. The FDEP regulates fugitive particulate emissions from ground disturbance activities like construction and demolition projects. The permit includes requirements to limit fugitive dust through best management practices, outlined in the Brevard County Land Development Code, Section 62-2255. Standard dust reduction measures (e.g., watering, minimizing vehicle speeds on exposed earth) would be instituted during demolition. Emissions from trucks and other equipment used to support demolition activities should have no measurable impact on regional air quality. With the implementation of Best Management Practices (BMP), the quantity of emissions should be minimal. A National Emissions Standards for Hazardous Air Pollutants (NESHAP) survey should be performed prior to demolition.

Emissions from unpermitted stationary sources would decrease with the proposed action, as the number of residences would be reduced, and the number of heating and air conditioning units would be reduced within the housing areas. No new permitted stationary sources of pollution would be added, and long-term emissions from stationary sources would be reduced. These emissions are not anticipated to be substantial. Generation of greenhouse gases from residential sources would decrease with the proposed action, as the number of residences would be reduced, and the number of heating and air conditioning units would be reduced within the housing areas.

Estimated emissions would not exceed the NAAQS due to limited amount of pollutants generated, the location of the housing areas (on a barrier island), and the typical meteorological conditions (wind speeds range between 7 and 10 mph throughout the year) (city-data.com, 2007).

Housing may include upgrades to heating and cooling systems which would likely be more energy efficient. Current design standards and building materials can result in more energy efficient homes, so the potential is there for the renovated units to incorporate these conservation measures.

Under the preferred alternative, no significant impacts to air quality are anticipated.

#### *Alternative 2 (10-Year Lease)*

Impacts to Air Quality under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

#### *No Action Alternative*

Under the No Action Alternative, no adverse impacts to air quality are anticipated.

## **4.2 Soils, Geology, and Topography**

Geological studies, soil surveys, previous EAs, and a U.S. Geological Survey (USGS) topographical map were reviewed to characterize the existing environment. Demolition activities that would affect geological resources were evaluated, for example, soils that will be disturbed during demolition. The existing conditions were compared to the conditions anticipated from the proposed action.

#### *Preferred Alternative (50-Year Lease)*

The implementation of the 50-year lease alternative would result in disturbance of soils in a portion of the 50 acres and 52 acres of the North Housing and Central Housing areas, respectively. A total of 71 units are proposed for demolition in the Central Housing area. During the demolition and grading phase of the proposed action, the soil would be vulnerable to wind and water erosion in the short term. However, the housing areas are nearly level and the risk of erosion would be minimal.

In the long term scenario, soil productivity in affected areas would not be significantly impacted. The topsoil in the demolition areas would be restored (leveled) and re-seeded to prevent soil dispersal by wind, and reduce runoff during weather events.

As discussed in section 3.2.1, there were no earthquakes within a 100 mile radius of PAFB in the period 1990 through 2006, and the estimated seismic hazards for the project area are very low. Impacts from seismicity would not be an issue.

Under the preferred alternative, no significant impacts to soil, geology, or topography are anticipated.

*Alternative 2 (10-Year Lease)*

Impacts to soils, geology, and topography under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

*No Action Alternative*

Under the No Action Alternative, no impacts to soil, geology, and topography are anticipated.

### **4.3 Water Resources**

The review of water resources focused on the location of the proposed action, and the proximity of the action to ground water, surface water, floodplains, wetlands, and coastal zones. The information reviewed was obtained primarily from the recently published Final Draft INRMP EA (USAF, 2007) and the PAFB General Plan (2004).

#### **4.3.1 Ground Water**

*Preferred Alternative (50-Year Lease)*

The preferred action is not expected to adversely impact ground water. In the event of a spill or leak of hazardous material during demolition (fuel, oil, for example), the spill would be immediately cleaned up by the PO in accordance with their own Spill Response Plan as negotiated when the contract is drawn up between the PO and the USAF. The primary possible source of spills would be heavy equipment, and spills of this nature are typically not substantial.

*Alternative 2 (10-Year Lease)*

Impacts to ground water under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

*No Action Alternative*

Under the No Action Alternative, impacts to ground water would remain unchanged.

#### **4.3.2 Surface Water**

*Preferred Alternative (50-Year Lease)*

The preferred action is not expected to adversely impact surface water. Silt fencing would be installed around the boundary of the project area, which would be monitored in accordance with the required demolition activity's Environmental Protection Plan (EPP). The Banana River and Atlantic Ocean are the dominant surface water features in the area, particularly for the North Housing area, as the river is the western boundary for the housing area. The Central Housing area is enclosed by a block wall, and the North Housing area is bounded by a block wall on the east

and north sides. This block wall, in addition to silt fencing, would minimize adverse impacts to the Atlantic Ocean.

*Alternative 2 (10-Year Lease)*

Impacts to surface water under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

*No Action Alternative*

Under the No Action Alternative, impacts to surface water would remain unchanged.

### **4.3.3 Storm Water**

*Preferred Alternative (50-Year Lease)*

Under the 50-year lease alternative, there would be a minor beneficial impact to the storm water system. The demolition of housing units would reduce the impermeable surfaces within each housing area, which would slow the amount of runoff into the storm water system, and into the Banana River.

*Alternative 2 (10-Year Lease)*

Impacts to storm water under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

*No Action Alternative*

Under the No Action Alternative, impacts to storm water would remain unchanged.

### **4.3.4 Floodplains**

*Preferred Alternative (50-Year Lease)*

Presently the North and Central Housing areas do not constitute a substantial portion of the 100 year floodplain located within PAFB. The Central Housing area is outside of the 100-year floodplain, and approximately 50 percent of the North Housing area lies within the 100 year floodplain (Figure 3-3). The floodplain is not suitable for construction and therefore no new construction is planned for the 100-year floodplain area of North Housing under the proposed action alternative. The floodplain impact has already occurred in the North Housing area, and it would not be practical to demolish existing livable housing which currently meets or exceeds USAF housing standards in an attempt to return the floodplain to original condition. If all housing units in North Housing were demolished in an effort to restore the floodplain, the historic hydroperiods would also need to be restored in the floodplain. North Housing is currently surrounded on three sides by development, and due to this development it is likely not feasible to return the floodplain to historic conditions. However, substandard housing could be demolished, which would reduce the impermeable surface area within North Housing, which would be beneficial to the floodplain. To avoid adverse effects and incompatible development in the



floodplains, no new construction is planned by the proposed action in North Housing. The footprint of North Housing will not be changed under the proposed alternatives.

*Alternative 2 (10-Year Lease)*

Impacts to floodplains under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

*No Action Alternative*

Under the No Action Alternative, impacts to floodplains would remain unchanged. Minor beneficial impacts to the floodplain may be realized as the North Housing area would probably be considered for new development last (to accommodate mission growth). Future mission growth may result in land use changes, primarily in the Central Housing area, closest to current runway activities.

#### **4.3.5 Wetlands**

*Preferred Alternative (50-Year Lease)*

Wetlands are not expected to be adversely impacted by the preferred action. There are no wetlands located within the North or Central Housing areas. Nearby wetlands will be protected by implementing BMPs during demolition activities.

*Alternative 2 (10-Year Lease)*

Impacts to wetlands under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

*No Action Alternative*

Under the No Action Alternative, impacts to wetlands would remain unchanged.

#### **4.3.6 Coastal Zones**

*Preferred Alternative (50-Year Lease)*

Coastal zones (Atlantic Ocean) are not expected to be adversely impacted by the preferred action. Both the North and Central Housing areas are located on the west side of State Road A1A, beyond the FDEP-established Coastal Construction Setback Line (Figure 3-4). Therefore, demolition activities associated with the proposed action would not be expected to occur within established setback areas. Figure 3-4 shows the relationship between the Coastal Construction Control Line and the North and Central Housing areas. Federal consistency is a Coastal Zone Management Act requirement in which federal activities, including development, that may have a reasonable foreseeable effect on coastal resources must be consistent with the state federally approved Coastal Management Program (15 FR Part 930, Subpart C). The USAF will ensure the action continues to be consistent to the maximum extent practicable. Since no new construction is expected in either of the two action alternatives, consultation with the state of Florida regarding

Coastal Construction Control Line should not be required. If the PO decides within the term of the lease that new construction is desired, new impact analyses will occur with the help of AFCEE and PAFB as the land will still be retained by the United States Air Force. Any new construction planned on housing sites that have been demolished will be the action of PAFB and separate impact analyses will be prepared by the United States Air Force in accordance with the National Environmental Policy Act.

Federal consistency will be approved through the review of the EA through the Florida Clearinghouse.

Under the preferred alternative (50-year lease) there is potential for minor beneficial impact to the storm water system and the floodplain; and no substantial adverse impact to ground water, surface water, wetlands, or coastal zones is anticipated. *No Action Alternative*

#### *Alternative 2 (10-Year Lease)*

Impacts to coastal zones under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

#### *No Action Alternative*

Under the No Action Alternative, impacts to coastal zones would remain unchanged.

## **4.4 Biological Resources**

The 45<sup>th</sup> Space Wing manages its natural resources in accordance with the DoD Biodiversity Conservation Strategy. This strategy is based on an ecosystem management approach to natural resource programs. This section of the EA compares the existing conditions of biological resources with expected changes in those resources under both the proposed and No Action Alternatives.

### **4.4.1 Vegetation**

#### *Preferred Alternative (50-Year Lease)*

Within the boundaries of the North and Central Housing areas, and within the Base itself, there currently is a limited variety of vegetation. The majority of vegetation in the housing areas is maintained (mowed) grass, with some foundation plantings, primarily at the entrance to residential units or other Base facility buildings. The proposed action will have an impact on the landscape plantings at the residential units proposed for demolition. If included as part of the proposed action, the existing native palm trees (*Sabal palmetto*) could be saved to the maximum extent possible (or avoided, if possible). As part of the proposed action, it is anticipated that the developer would need to implement a facilities maintenance plan which would address building and grounds maintenance in order to be in compliance with USAF standards, which may include saving existing landscape plants.

There is potential for a positive impact on vegetation in the housing areas, if the areas cleared by demolition are cultivated to establish native plant communities.

Under the preferred alternative, no significant (adverse or beneficial) impacts to vegetation are anticipated.

#### *Alternative 2 (10-Year Lease)*

Impacts to vegetation under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

#### *No Action Alternative*

Under the No Action Alternative, no significant impacts to vegetation species are anticipated. Management of the natural resources would continue as it currently does, in accordance with the INRMP (USAF, 2007).

### **4.4.2 Wildlife**

#### *Preferred Alternative (50-Year Lease)*

State and federal protections are currently in place for the sea turtle nesting areas identified on the Atlantic Ocean beachside of PAFB, and all developments (public and private) are required to implement measures to protect nesting turtles and the hatchlings. The footprint of the housing areas would not increase under the preferred alternative, and impacts to sea turtles are not anticipated (see section 4.4.4 for discussion on lighting). Wildlife within the Base (on this barrier island) is currently limited, as discussed in section 3.4.2. Wildlife species that would normally utilize grass and landscape plantings (insects, reptiles) would be displaced during the demolition phase. Migratory bird species also utilize habitat within the housing areas for nesting. During the demolition phase of the project some birds may be displaced, depending on the timing of the demolition. However, other nearby habitat will be available for the displaced birds, so impacts are expected to be minor and short-term. Under the preferred alternative, the 45<sup>th</sup> SW biologist would no longer be assigned to assist residents with identifying migratory birds within the housing areas, and for recommending action (or inaction) regarding migratory bird nests. Birds reportedly nest in the palm trees (grackles especially) and within the landscaping and storm water dry swales (killdeer). Woodpeckers have used dying palm trees for their nest cavities. Birds have also utilized housing patios and awnings for nesting. Even under privatization, the AF is still responsible for protecting natural resources in the housing areas, and presumably an agreement could be reached between the AF and the PO to allow the 45<sup>th</sup> SW biologist to provide information to residents regarding the protected status of nesting migratory birds, and to ascertain if nesting migratory birds are in harm's way.

If demolition areas are allowed to return to a more natural state, or if a natural habitat is established, the potential for native wildlife utilizing the area would be slightly increased.

If the population of housing residents increases due to increased mission growth combined with improvements to housing created by the PO, this increased human population could potentially negatively affect wildlife use in the North and Central Housing areas (for example, nesting migratory birds), but since the habitat within the housing areas is not desirable to wildlife (in general), it is not anticipated the preferred alternative would have a significant impact on wildlife.

The Banana River shoreline is an estuarine habitat, including sea grass as Essential Fish Habitat that is protected under the Magnuson Stevens Fisheries Act. No demolition or construction will occur in the Banana River, and during demolition activities BMPs will be utilized, therefore consultation with National Marine Fisheries (NMF) related to essential fish habitat should not be required.

Under the preferred alternative, no significant (adverse or beneficial) impacts to wildlife are anticipated.

#### *Alternative 2 (10-Year Lease)*

Impacts to wildlife under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

#### *No Action Alternative*

Under the No Action Alternative, no significant impacts to wildlife species are anticipated. Management of the natural resources would continue as it currently does, in accordance with the INRMP (USAF, 2007).

### **4.4.3 Exotic/Nuisance Species**

#### *Preferred Action Alternative (50-Year Lease)*

Impacts to exotic/nuisance species are not anticipated under the preferred action. Although there are some invasive plant species currently located within the Base boundary, invasive plant species were generally not observed in the North or South Housing areas. With the preferred action, it is anticipated a facilities maintenance plan would be developed which would address the control of invasive plant species. No impacts to invasive plant species are anticipated with the proposed action.

#### *Alternative 2 (10-Year Lease)*

Impacts to exotic/nuisance species under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

#### *No Action Alternative*

Under the No Action Alternative, no significant impacts to exotic/nuisance species are anticipated. Management of the natural resources would continue as it currently does, in accordance with the INRMP (USAF, 2007).

#### **4.4.4 Threatened, Endangered, and Sensitive Species**

##### *Preferred Action Alternative (50-Year Lease)*

Protected sea turtles (loggerhead, green, and leatherback sea turtles) have deposited nests on the beach side (east of State Road A1A) of PAFB, but sea turtle activity does not occur within the Base proper, where the North and Central Housing areas are located. Inappropriate nighttime lighting can be an issue with nesting sea turtles and their hatchlings, however, lighting in the North and Central Housing areas are currently managed by the 45th Space Wing Instruction 32-7001, Exterior Light Management Plan. Light management is also incorporated as a section in the INRMP, in order to be compliant with state and federal laws.

Under the preferred alternative, there is no plan to increase the footprint of the North and Central Housing areas which will eliminate impacts due to added lighting/artificial lighting glow which would be associated with new construction. Some current housing lighting is not acceptable but has remained in compliance because residents extinguish it during sea turtle season. Unacceptable lighting will be retrofitted or replaced and any replacement lighting will be in accordance with specific language developed by the United State Fish and Wildlife Service within the lease terms. It should be noted that in the past, Florida Power and Light (provider of electricity) has refused to service low pressure sodium (LPS) lighting in the currently privatized South Housing area. In the event FPL will not provide service or maintenance to LPS lighting, the PO will be responsible for maintaining the lighting infrastructure (poles, bulbs). Ms Keitha Dattilo-Bain, representative for the 45<sup>th</sup> SW, submitted the draft EA for the Proposed USAF MFHPI at PAFB, Florida (North and Central Housing) to the USFWS for review. The USFWS received the draft EA on July 31, 2008, and responded on August 8, 2008. The USFWS identified the several lighting requirements to be included in the deed restrictions in perpetuity. A summary of the USFWS comments are provided in Section 5.0 of this EA and a copy of agency correspondence is provided in Appendix B. The provisions set forth in that consultation will need to be adhered to by the PO. The PO will also provide educational information regarding sea turtles to new residents as part of the rental process and will provide annual sea turtle light management reminders. The residents and PO would be subject to the same state and federal turtle protection guidelines and regulations that are in place throughout the County at other private developments.

Another protected species, the white ibis was observed in the North Housing area during the field reconnaissance phase of the EA. The white ibis were observed group feeding in a maintained lawn area of North Housing. The primary threat to the white ibis in the region is the degradation

of wetlands through destruction, alteration, pollution, or other forms of disturbance, as well as protecting colonial nesting sites from human disturbance (FNAI, 2001). There are no wetlands located within the North Housing area, and no evidence of nocturnal roosting (white ibis) was observed during the daytime site visit to North Housing. During the demolition phase of the proposed action (short term), the white ibis, if present, will likely move to another area of the Base for foraging, and return when demolition was completed. Under the preferred alternative, it is anticipated there would be minor short-term impacts to the white ibis and no significant impact to the white ibis in the long term.

No significant impacts to migratory birds are anticipated under the preferred alternative. However, some intermittent impacts to bird feeding/foraging/resting will occur due to demolition noise and activity since migratory bird species currently utilize palm trees, swales, and housing patios (nesting) in North and Central Housing. Demolition could be scheduled to reduce the risk of disturbing nesting migratory birds and activity around nesting migratory birds would be governed by the Migratory Bird Treaty Act. No long term impact is anticipated under the preferred alternative.

The mangrove was observed along the western boundary of PAFB, at the shoreline of the Banana River. The mangrove is protected by the State of Florida under the Mangrove Trimming and Preservation Act (1996), which regulates the trimming and alteration of mangroves. Under the preferred alternative, no impact to the mangrove is anticipated, as no activity along the river shoreline is proposed, and BMP would be implemented during demolition to protect the Banana River. Under the preferred alternative, no impact to the mangrove is expected.

Although not considered within the Base boundaries, the Banana River is classified as a critical habitat for the endangered Florida manatee, but the preferred alternative would not adversely impact the Florida manatee since there would be no activity in the Banana River or its tributaries, and BMPs would protect the Banana River from potential impacts associated with nearby housing repairs and maintenance in the North Housing area.

Additionally, the Banana River shoreline is a potential nesting area for threatened and endangered species, although no demolition is anticipated on, or in, the Banana River. The River Walk area and Banana River shoreline will not be part of the privatization transaction, and the USAF would continue to be responsible for policing this area of the Base, i.e. protect sea grass beds adjacent to the Base in this area from foot traffic, motorized and non motorized boats; protect the eelgrass beds; mangroves; and shoreline.

At present, residents cannot pull personal boats up to the Banana River shoreline; they must use a designated dock area.

Under the preferred alternative, it is anticipated that adverse impacts to threatened, endangered, or sensitive (protected) species at PAFB can be avoided.

#### *Alternative 2 (10-Year Lease)*

Impacts to threatened, endangered, and sensitive species under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

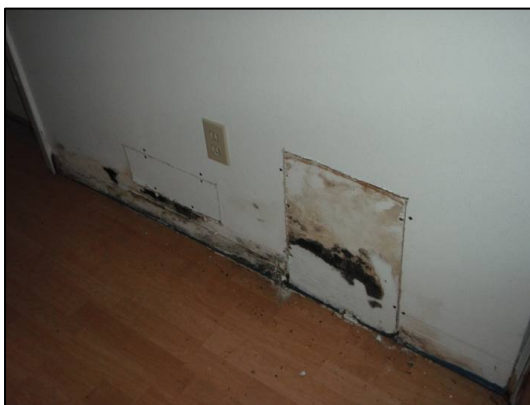
#### *No Action Alternative*

Under the No Action Alternative, no significant impacts to threatened, endangered, and sensitive species are anticipated. Management of the natural resources would continue as it currently does, in accordance with the INRMP (USAF, 2007).

### **4.5 Human Health and Safety**

#### *Preferred Alternative (50-Year Lease)*

Under the proposed action; i.e. the demolition of a total of 71 residential housing units in the Central Housing area, health and human safety would be positively impacted in the long-term. Some of the residential units are currently below USAF housing standards, and these units would either be demolished or renovated to be brought up to standards. Some housing units (below USAF standards) have issues with mold and failure of exterior siding.



Evidence of water damage in unoccupied residential unit.



Evidence of damaged stucco on residential unit.

In the short term, demolition activities present a set of health and safety issues: presence of heavy machinery/equipment, potential for airborne hazardous materials, demolition related accidents, noise hazards, and the potential unauthorized entrance to the demolition area by Base residents, especially children.

The PO must ensure the demolition area is restricted both during active and non-active hours with secure fencing, locked gates, and/or use of security services. With proper precautions, these issues should pose only a minor adverse impact to health and safety of workers and Base residents.

The end state (demolishing irreparable housing units, and the repair and renovation of repairable units) in the North and Central Housing areas would result in a minor positive impact to human health and safety in the long term. Under the preferred alternative, structures will be maintained and repaired in a timely manner, which is a healthier situation for residents.

*Alternative 2 (10-Year Lease)*

Impacts to Human Health and Safety under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

*No Action Alternative*

Under the No Action Alternative, there would be no immediate change in the current health and safety of Base residents within the North and Central Housing areas. Vacant housing that is currently below USAF standards would remain in place until such time that those units could be repaired or demolished.

#### **4.6 Solid Waste and Hazardous Materials**

The evaluation of solid waste and hazardous materials completed in Section 3.6 focused on the proposed activity, the likelihood of potential spills and/or leaks, and the severity of the impacts if spills or leaks occur. The PO will involve the Installation Restoration manager at PAFB several months in advance of any action near the closed landfill site found at the edge of the Central Housing area.

*Preferred Alternative (50-Year Lease)*

Under the 50-Year lease alternative, the volume of solid waste would increase in the short term due to the demolition of the selected residential housing units, and removal of the associated debris. In the long term, the volume of solid waste would also increase as occupancy rates increase with the improved housing and the on-base resident population increases.

Demolition debris will be disposed of in a manner consistent with RCRA, state requirements, and the Air Force Instruction (AFI) 32-7042, *Solid and Hazardous Waste Compliance*, and AFI 32-7080, *Pollution Prevention Program*. To the greatest extent possible, the PO will strive to reduce the solid waste stream as much as possible to reduce economic and environmental costs. C&D debris can be diverted from landfills through source reduction, recycling, and reuse.

Demolition activities completed in the IRP site at the Central Housing area will need to be completed in accordance with appropriate approval and supervision from Base personnel responsible for IRP site management. Waste handling and disposal will be the responsibility of the PO. Contract (demolition) workers will need to be appropriately trained for work in these



types of sites (e.g. Hazardous Waste Operations and Emergency Response [HAZWOPER] training, etc.).

In the short term the potential for the release of hazardous materials would increase, due to the demolition activities (primarily leaks and/or spills associated with equipment used for the demolition). However, in the long term, the risks associated with the release of hazardous materials would decrease after the demolition phase is completed. Should the military family tenants require spill-response assistance, PAFB personnel could be contacted as the nearest first-responders. However, the Brevard County Emergency Services Department could also be contacted for assistance.

#### *Alternative 2 (10-Year Lease)*

Impacts associated with solid and hazardous waste handling and disposal under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

#### *No Action Alternative*

Under the No Action Alternative, there would be no adverse impact expected in association with the volume of solid waste or to exposure to hazardous materials, as the North and South Housing areas would continue to operate in the same manner as the current condition. Under No Action Alternative, there would be no significant impacts associated with the release of hazardous materials.

## **4.7 Noise**

#### *Preferred Alternative (50-Year Lease)*

Under the proposed action, the total number of units in Central Housing areas would be decreased by 71 units. A corresponding reduction in traffic associated with residential units would occur, as would a corresponding reduction in traffic related noise (long term). However, with the anticipated population increase on the Base due to mission growth combined with improved accompanied housing in the North and Central Housing areas, noise within the housing neighborhoods would increase as more residents move in, due to more traffic in the housing area, more personnel and their families (children), individual outside air handler noise, and lawn mowers, for example.

During demolition of the selected units in the Central Housing area, noise would increase in the short term due to the use of heavy equipment, increased truck traffic for waste hauling, and other demolition related noise.

Noise associated with aircraft and military warning signals would remain unchanged under the preferred alternative action.

#### *Alternative 2 (10-Year Lease)*

Impacts associated with noise under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

#### *No Action Alternative*

Under the No Action Alternative, the noise level would remain unchanged in the North and Central Housing areas, as the housing areas would continue to be managed for military service people and their families.

### **4.8 Cultural Resources**

The USAF is required to comply with regulations regarding cultural resources, which includes properties which might be included on the NRHP to ensure these properties are not inadvertently demolished, sold, or substantially altered. The effects of the proposed and No Action Alternatives related to cultural resources are discussed in this section.

#### *Preferred Alternative (50-Year Lease)*

Under the proposed action, select housing units in the Central Housing area would be demolished. These structures were built during the period 1995 through 1998, and are not considered of historical significance. There are some structures within the Base that are eligible or potentially eligible for listing on the NRHP, but they are located outside of the housing areas and would not be impacted by the proposed action.

Under the preferred alternative, no significant impacts to cultural resources are anticipated.

#### *Alternative 2 (10-Year Lease)*

Impacts to Cultural Resources under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

#### *No Action Alternative*

Under the No Action Alternative, no significant impacts to cultural resources are anticipated, since there are no cultural resources located with the housing areas.

### **4.9 Land Use**

#### *Preferred Alternative (50-Year Lease)*

Under the preferred alternative, a percentage of the housing units in the Central Housing areas would be demolished. This would change the land use at the lots where the houses are demolished from residential to open space.

Under the preferred alternative, significant changes to land use are not anticipated.

#### *Alternative 2 (10-Year Lease)*

Impacts to Land Use under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

#### *No Action Alternative*

Under the No Action Alternative there would be no change in land use from the existing condition as the housing units would continue to be managed in the same manner as currently managed.

### **4.10 Traffic and Transportation**

#### *Preferred Alternative (50-Year Lease)*

Under the proposed action alternative, there would be a total of 71 units demolished in the Central Housing area, and units within both North and Central Housing areas would be repaired and/or renovated. It is anticipated the majority of units slated for demolition are not currently occupied (due to condition), and that once housing units within North and Central Housing are repaired/renovated there would be an increase in on-base resident population. Therefore traffic within the North and Central Housing areas would be expected to increase slightly. It is important to note that gate traffic from on-base residents during peak hours is not an issue, as on-base residents are travelling in the opposite direction from the workers who live off-base, and off-base residents are responsible for the traffic back-ups at the main and south gates during peak hours.

In the short term, during the demolition phase of the project, traffic volume would increase due to the influx of demolition workers, associated equipment, and heavy truck traffic (to remove debris from demolished buildings). Demolition and renovation schedules could be planned to avoid times of higher traffic volumes to minimize the impact on the residents and employees of PAFB.

The long term traffic volume at the entrance gates may decrease as a result of implementation of the proposed action because it is anticipated that more PAFB personnel will choose to move into the competitively-priced, newly renovated, privatized on-base housing. The commutes for these staff will then be shorter and will relieve peak-hour traffic congestion on State Road A1A.

Bus and rail service are not currently available at PAFB, but Melbourne International Airport is located 12 miles south of the Base. No change in bus, rail, or airport use is anticipated with the preferred alternative.

Under the preferred alternative, there would be no significant impacts to traffic and transportation.

#### *Alternative 2 (10-Year Lease)*

Impacts to traffic and transportation under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

#### *No Action Alternative*

Under the No Action Alternative, no changes to traffic volume are anticipated as the same number of residential units will remain within in each housing area. The exception to this is the normal ebb and flow of occupancies and vacancies of the housing units. Impacts to air travel (Melbourne International Airport) are not anticipated.

Under the No Action Alternative, no changes to traffic and transportation are anticipated.

### **4.11 Socioeconomics and Environmental Justice**

#### **4.11.1 Employment and Income**

##### *Preferred Alternative (50-Year Lease)*

During the proposed action (demolition of selected housing units), new jobs will be created to complete the demolition (including workers on site, administrative workers purchasing goods and services to complete the demolition). The local economy would receive a short term beneficial impact from these temporary jobs. Under the preferred alternative action, positive impacts to employment and income are expected in the short-term. Significant impacts are not anticipated in the long term.

##### *Alternative 2 (10-Year Lease)*

Impacts to employment and income under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

##### *No Action Alternative*

Under the No Action Alternative, there would be no significant change in employment and income caused by the No Action Alternative.

#### **4.11.2 Housing**

##### *Preferred Alternative (50-Year Lease)*

Under the preferred alternative, the availability of housing to both current and future residents would be plentiful (i.e. current residents would not be required to seek other housing off-base, and future residents would be able to obtain on-base housing). By continuing to provide housing to its employees, PAFB personnel will not saturate the rental housing market elsewhere in the County thereby making those units available to other County residents.

The current level of housing provided in the privatized, off-base South Housing area (Pelican Coast) meets 60 percent of the most recent Housing Requirements and Market Analysis (HRMA)

requirement of 266 housing units for PAFB. Although initially contracted to provide 552 total units in South Housing, due to financial issues American Eagle will not build any more units in South Housing. The total number of housing units in South Housing will remain at 156. The HRMA analysis is a bit misleading regarding housing needs since personnel from other branches of the military and other AF facilities also live in PAFB housing. However, as noted in a recent market analysis of competitive off-base housing completed for this project (Novogradac and Company, April 2008), existing homes in the South Housing area are nearly all rented, and the waiting list for single-family and duplex homes with 2 to 4 bedrooms is growing. When the current blight-like conditions in some areas of the North and Central Housing areas changes, i.e. PO demolition of residential units is completed, and repairs and/or renovation to existing units is completed, the North and Central Housing areas will be perceived as a more desirable place to live for PAFB tenants. With the results of the Novogradac and Company report (2008), anticipated mission growth (Section 1.2, Purpose and Need), and the perceived and actual improvement of the neighborhoods within North and Central Housing, it is expected there will be an increased demand within the current PAFB tenant-base for family housing in the North and Central Housing areas.

The April 2008 market analysis of PAFB housing (Novogradac & Company, 2008) indicated that the vacancies in North and Central Housing will be filled with Air Force personnel; it has been assumed for the analysis in this EA that no tenant waterfall will be activated over the life of the 50-year lease.

Under the proposed action alternative, there would be a substantial beneficial impact to the number of quality/livable housing units available within PAFB.

Lower income military families are often the most impacted regarding the availability of affordable, decent housing. The consequences of privatization of the housing at PAFB on lower income families will depend upon rental rates enacted by the private owner.

#### *Alternative 2 (10-Year Lease)*

Impacts to housing under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

#### *No Action Alternative*

Under the No Action Alternative, there would be a decrease in the number of on-base housing units available for use by PAFB personnel, primarily due to current funding method (\$3800/year/unit) for repairs and/or renovation of units which is usually inadequate to cover required repairs. However, according to HRMA for PAFB (SAIC, 2007) currently available housing exceeds current and future (anticipated) demands by PAFB personnel. On that basis, implementation of the No Action Alternative is not expected to impact rental housing in the County. Under the No Action Alternative, there would not be impacts to on-base housing.

#### **4.11.3 Community Facilities and Services**

##### *Preferred Alternative (50-Year Lease)*

No short term or long term impacts to public schools would be anticipated under the preferred alternative action. Current housing vacancy percentages in North and Central Housing are greater than the proposed percentage of housing units designated for demolition. There should be no impact on public school enrollment as a result of the proposed action.

No short-term or long-term impacts to health care in the area would be expected under the proposed actions. Police and medical emergencies would be provided by the Brevard County Sheriff and/or City of Satellite Beach and Emergency Response which would preclude possible jurisdictional (civilian vs. military) issues. Base security would still have to be concerned with force protection and military issues.

##### *Alternative 2 (10-Year Lease)*

Impacts to Community Facilities and Services under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

##### *No Action Alternative*

Under the No Action Alternative, no impacts to public schools are anticipated. There are no public schools located within PAFB. The overall number of students attending area public schools would likely remain the same.

No short-term or long-term impacts to health care in the area would be expected under the No Action Alternative.

#### **4.11.4 Environmental Justice**

*Preferred Alternative (50-Year Lease), Alternative 2 (10-Year Lease), and No Action Alternatives*  
Impacts to environmental justice would be considered significant if impacts to minority populations or low economic communities were disproportionately high or low when compared to the general population. Since the demolition activities would be on-base, and impacts to off-base services would be minor, no significant impacts to minority populations or low economic communities are anticipated under the two action alternatives or under the No Action Alternative.

#### **4.12 Utilities**

##### **4.12.1 Water Supply**

##### *Preferred Alternative (50-Year Lease)*

Under the proposed action alternative, no adverse impact to water supply would be anticipated as current vacancy levels in the North and Central Housing areas exceed the percentage of

residential units planned for demolition. The 2004 General Plan for PAFB (USAF, 2004) addresses several problems regarding the age and maintenance of water supply lines on-base, particularly degradation of steel galvanized pipe in several areas and upkeep of the 40 year old pump stations. Several main water lines and valves have been planned for phased repair, which is outlined in the PAFB Operations & Maintenance (O&M) Long Range Infrastructure Improvement Plan. It is assumed that the phased repairs which are already identified in the PAFB Operations and Maintenance Long Range Infrastructure Improvement Plan, even if they extend into the leased area, will be completed by the USAF and that associated permitting will be the responsibility of the USAF. It is further assumed that additional repairs, routine maintenance, or upgrades needed to service the leased land will need to be negotiated between the USAF and PO when the lease contracts are written.

*Alternative 2 (10-Year Lease)*

Impacts to the water supply under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

*No Action Alternative*

No adverse impact to water supply would be anticipated in the short term from implementation of the No Action Alternative, as the housing units would continue to be managed as in their current condition. Maintenance and repairs of degraded water lines is currently being performed by PAFB as described above.

#### **4.12.2 Sanitary Sewer**

*Preferred Alternative (50-Year Lease)*

Under the 50-Year Lease Alternative, no adverse impact to the sanitary sewer would be anticipated as the current North and Central Housing area vacancy levels exceed the percentage of residential units planned for demolition. Maintenance and repair of sanitary sewer mains, lift stations, and pumps is described in the Long Range Infrastructure Improvement Plan (USAF, 2004). Additional repairs, routine maintenance, or upgrades needed to provide sanitary sewer service the leased land will need to be negotiated between the USAF and PO when the lease contracts are written.

*Alternative 2 (10-Year Lease)*

Impacts to the sanitary sewer system under the 10-year lease option would be similar to those described above for the 50-year lease alternative.

*No Action Alternative*

Under the No Action Alternative, no adverse impact to the sanitary sewer would be anticipated as the utilities serving the housing units would continue to be maintained by the Air Force.

Assessment of sanitary sewer infrastructure and necessary repairs in these areas has already been addressed as described under the proposed action alternative.

#### **4.12.3 Electricity, Heating/Cooling, Natural Gas, Telecommunications**

*Preferred Alternative 1 (50-Year Lease), Alternative 2 (10-Year Lease), and No Action Alternatives*

No significant impact to the supply of electricity would be anticipated under the two action alternatives, or under the No Action Alternative.

No significant impact to the supply of heating and cooling of remaining housing units would be anticipated under the two proposed action alternatives, or under the No Action Alternative.

No significant impact to the supply of natural gas would be anticipated under the two proposed action alternatives, or under the No Action Alternative.

No significant impact to the supply of telecommunications services would be anticipated under the two proposed action alternatives, or under the No Action Alternative.

#### **4.13 Cumulative Impacts**

Cumulative impacts are the changes to the environment (physical and biological) that would result from the proposed action alternative, combined with anticipated future actions. While impacts may be insignificant individually, when considered cumulatively, the combined impacts could, in some cases, be significant.

Neither of the action alternatives is anticipated to result in cumulative impacts to any resources examined in this document. The activities associated with privatization of the North and Central Housing areas are confined to existing locations currently used for similar purposes. No encroachment on other properties would be required or anticipated.

#### **4.14 Summary of Impacts of Proposed Action**

This EA was conducted to assess the existing conditions in the North and Central Housing areas, and identify the environmental consequences of the proposed action (proposed MFHPI at PAFB). Privatization of the South Housing area and Officer's Housing has already occurred at PAFB. The proposed action involves non-Federal Acquisition Regulation (FAR) real estate transaction under which the Government will convey 250 existing housing units in the North Housing area and 274 existing housing units in the Central Housing area and certain associated improvements under a 50-year lease (Alternative 1 - Preferred Alternative) or under a 10-year lease (Alternative 2). It should be noted a potential PO (in discussion with the Air Force) indicated a 10-year lease would be impractical; i.e. a 10-year timeframe is too short to implement the required improvements in the housing inventory and recoup their (PO) costs.



Under the proposed actions, a total of 71 residential units in Central Housing will require demolition. The remaining housing units and associated areas will comprise the lease boundary, approximately 102 acres of land divided between two housing areas on Base.

Resources and issues addressed in the EA included air quality; soil, geology, and topography; water resources; biological resources; human health and safety; solid waste and hazardous materials; noise; cultural resources; land use; traffic and transportation; and socioeconomics and environmental justice (Summary Table 2-2, Section 2.0 of this report).

The proposed actions will comply with Federal and Florida air quality laws and USAF policies that are designed to minimize the long-term cumulative impacts to air quality. Short-term fugitive emissions related to demolition would not violate federal or state requirements. In the long term, no issues with air quality would be anticipated. The impacts to air quality would not be significant.

The proposed actions will comply with permit requirements related to soil, ground water, surface water, flood plains, wetlands, and coastal zones, and the impacts to these resources would not be significant. There is potential for beneficial impacts to storm water management and the floodplains, due to a decrease in impervious surfaces once substandard homes have been demolished.

Natural resources on PAFB are managed in accordance with the INRMP (2007), federal, and state regulations and impacts from the proposed actions would have limited effects on vegetation, wildlife, protected species, and invasive species. Specifically, impacts to protected species can be avoided under the proposed action (specifically, sea turtles). Under the proposed actions, the adverse impacts to these resources would not be anticipated.

Short and long term minimal adverse impacts were identified as relates to human health and safety, solid waste, hazardous materials, and noise, primarily during the demolition phase of the proposed action. Under the proposed action, there would be a long-term increase in solid waste with an increased resident population in the North and Central Housing areas. This long-term impact is not anticipated to be significant. In the short term, wastes would be generated as part of the demolition and renovation work at the site. Under the No Action Alternative, adverse impacts to human health and safety are not anticipated.

Although potential cultural resources are located with PAFB boundaries, none of the structures are located within the North or Central Housing areas. There would be no significant cumulative impacts to cultural resources under the proposed action.

Traffic back-ups at the central gate (truck gate) would increase during the demolition and renovation phases of the proposed actions. The number of traffic trips through the main and south gates would likely increase under the proposed actions due to the anticipated increase in the number of on-base tenants. Traffic within the housing areas would increase under the proposed actions. In the long-term, there would be a decrease in incoming traffic at the main gate, under the proposed actions, due to more residents living on-base. Under the no action scenario, traffic back-ups at the main gate would be expected to remain the same; no significant adverse impacts.

Significant socioeconomic impacts were not identified, nor were significant impacts to environmental justice identified under the proposed actions or the No Action Alternative. During demolition, a temporary boost to the local economy (jobs) would be realized. Demolition activities would occur on-base, and impacts to off-base services would be minor, so no significant impacts to minority populations or low economic communities are anticipated under the proposed action alternative.

Under the proposed actions, a substantial beneficial impact to livable, on-base housing would be realized. Under the No Action Alternative, no impact to livable, on-base housing would be expected.

No significant impacts to utilities (electric, heating/cooling, natural gas, telecommunications) were identified under the proposed action or the No Action Alternatives.

In summary, beneficial impacts under both of the proposed action scenarios are anticipated for: human health and safety, and housing; and adverse impacts are anticipated for solid waste. Under the No Action Alternative, no significant adverse impacts were identified; and a beneficial impact was land available for possible mission growth activities.

## 5.0 AGENCY CONSULTATION

Letters of inquiry were submitted to the Florida State Historic Preservation Office (SHPO), Division of Historic Resources, and the USFWS based on the original draft description of alternatives regarding the proposed actions (Appendix B).

Florida SHPO responded (letter included in Appendix B) indicating the proposed action will not affect historic properties.

ESA Section 7 consultation for the Proposed Action was conducted by PAFB personnel. Ms Keitha Dattilo-Bain, representative for the 45<sup>th</sup> SW, submitted the draft EA for the *Proposed USAF MFHPI at PAFB, Florida* (North and Central Housing) to the USFWS for review. The USFWS received the draft EA on July 31, 2008, and responded on August 8, 2008. The USFWS identified the following requirements to be included in the deed restrictions in perpetuity:

1. *Lighting on this property will be available for inspection and enforced throughout the housing units.*
2. *Street lighting associated with the housing units will be replaced with full-cut-off fixtures with low-pressure sodium lighting and a pole height no higher than 20 feet.*
3. *Porch lighting and floodlights will be replaced with low-pressure sodium lighting that is shielded and directed downward.*
4. *From March 1 through October 31 each year, exterior lights at all ball fields will be turned off by 9pm each night and may not be turned on again until after sunrise.*
5. *At no time should metal halide or mercury vapor lamps be installed on this property. No up-lighting is permitted anywhere on the property.*
6. *Exterior fixtures mounted to homes will be replaced with "downward-directed lights only" to direct lights where needed for safety and security and to ensure no up-lighting and unnecessary lateral light spread.*
7. *Interior lights will be minimized with light-blocking blinds or curtains.*
8. *A lighting survey will be conducted each year prior to March 1. Any lighting source or reflected lighting source visible from anywhere on the beach must be reported to the Service and replaced immediately with appropriate lighting fixture approved by the Service.*

The requirements are not unlike the requirements imposed by the USFWS when the South Housing area was privatized.

Personnel associated with the USAF were consulted during the preparation of this EA and included:

- Mr. Ron Marlin, Housing Privatization Portfolio Manager, HQ AFCEE/HDPM;
- Ms. Keitha Dattilo-Bain, Natural Resource Manager, PAFB;
- Ms. Theresa C. Ahlin, Chief, Housing Flight, PAFB;
- Ms. Debra Hornback, Quality Assurance, Housing Maintenance, PAFB;

- Ms. Caroline Jamba, Housing Manager, PAFB; and
- Ms. Cartama Remos-Crafton, GIS Specialist, PAFB.
- Mr. Michael Bowers, PAFB 45<sup>th</sup> CES/CEVR.
- Mr. Michael McDonald, PAFB, 45 CES/CEI, DSN 854-9266

Also, Mr. Richard Pollack, Financial Analysis, Jones Lang LaSalle provided information during the preparation of this EA.

## 6.0 LIST OF PREPARERS

MACTEC Engineering and Consulting, Inc. (MACTEC) is the contractor responsible for the preparation of this document. The MACTEC staff members listed below contributed to the preparation of this document.

*Flormari Blackburn*, P.E., Senior Engineer/Project Manager, (B.S. Chemical Engineering)

17 years experience

Project management and oversight

MACTEC Engineering and Consulting, Inc.

4150 John Young Parkway

Orlando, FL 32084

*Ann B. Shortelle*, Chief Scientist (Ph.D. Limnology)

24 years experience

Principal reviewer

*Judith Dudley*, Principal Scientist, (M.S. Aquatic Ecology, Ph.D. Ecosystems Ecology)

23 years experience

Description of Proposed Action Alternatives (DOPAA), Existing conditions, Technical reviewer of EA

*Joy Ryan*, Senior Scientist, (B.S. Forest Resources and Conservation)

20 years experience

Existing conditions, Environmental consequences

*Heather Hammers*, Staff Scientist (MS, Fisheries and Aquatic Sciences; BA, Zoology)

5 years experience

DOPAA

*Brandon Jarvis*, Staff Scientist (MS, Environmental Science; BS, Environmental Science)

1 Year experience

Existing conditions, research, maps/figures

## 7.0 REFERENCES

- Bowers, Michael. 2008. Personal communication. PAFB 45<sup>th</sup> CES/CEVR.
- City-Data. 2007. Website accessed March 2008: <http://www.city-data.com/city/Cocoa-Beach-Florida.html>.
- Dattilo-Bain, Keitha. 2008. Personal communication. Environmental/Natural Resources Division, PAFB 45<sup>th</sup> CES/CEV.
- Department of Defense (DoD). Office of the Secretary of Defense (OSD). Website accessed March 2008: <http://www.acq.osd.mil/housing/legislation.htm>.
- Economic and Demographic Research, Office of (EDR). 2008. Website accessed March 2008. <http://edr.state.fl.us/county%20profiles/brevard.pdf>. (A research arm of the Florida Legislature principally concerned with forecasting economic and social trends).
- Federal Interagency Committee for Wetland Delineation. 1989. *Federal Manual for Identifying and Delineating Jurisdictional Wetlands*. Washington, DC: Federal Interagency Committee for Wetland Delineation, 1989.
- Florida Department of Environmental Protection, Florida Geological Survey. 2008. Florida Geologic Map accessed on website March 10, 2008: [http://geology.about.com/library/bl/maps/n\\_statemap\\_FL1300.htm](http://geology.about.com/library/bl/maps/n_statemap_FL1300.htm) (Scott et al. Geologic Map of the State of Florida. 1300 X 1300 pixels)
- Florida Natural Areas Inventory (FNAI). *Field guide to the rare animals of Florida*. Florida Natural Areas Inventory, Tallahassee, Florida.
- General Accountability Office (GAO). 2006. Military Housing, Management Issues Require Attention as the Privatization Program Matures. April 2006 Report GAO-06-438 to congressional committees.
- McDonald, Michael. 2008. 45 CES/CEI, DSN 854-9266. Personal communication.
- National Audubon Society. 2001. *The Sibley guide to bird life and behavior*. Alfred A. Knopf, Inc., 587 pp.
- Natural Resources and Conservation Service (NRCS). 2006. Web Soil Survey, October 2006 Certified Data. Website accessed March 2008: <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>
- Novogradac & Company, LLP. 2008. A Market Analysis of Patrick Air Force Base Housing, Brevard County, Florida. Assignment Code: CAP607V-007
- NSA (New South Associates), 1996. 45 Space Wing Cultural Resource Management Plan: Patrick Air Force Base and Cape Canaveral Air Station, Brevard County, Florida. Technical Report No. 386.
- Patrick Air Force Base (PAFB). 2006. Integrated Pest Management Plan.
- PAFB. 2004. Invasive Plant Species Control Plan.
- Science Applications International Corporation (SAIC). September 8, 2008. Housing Requirements and Market Analysis Patrick Air Force Base 2008-2013
- Market Analysis for Patrick Air Force Base 2007 – 2012. Prepared for AFCEE, AF/A7CHD, AFSPC, and Patrick Air Force Base. May 15, 2007.

- U.S. Air Force (USAF). 2007. Integrated Natural Resources Management Plan for the 45<sup>th</sup> Space Wing [Patrick Air Force Base]. November 2007. Contract #F08650-03-D-0006.
- USAF. 2005. USAF Housing Requirements and Market Analysis Guidance Manual. March 2005.
- USAF. 2004. Patrick Air Force Base Florida, Florida, General Plan, Final Submittal. March 2004.
- U.S. Census Bureau. 2000a. Website: <http://quickfacts.census.gov/qfd/states/12000.html>, accessed March 2008.
- U.S. Census Bureau. 2000b. Website accessed March 2008: <http://www.uflib.ufl.edu/fehdl/census/brevardcensus.html>.
- U.S. Department of Labor. 2007. Website accessed March 2008: <http://www.bls.gov/cps/>.
- U.S. Geological Survey (USGS). 2008. National Earthquake Information Center. Seismicity Map of Florida on website accessed March 2008: <http://earthquake.usgs.gov/regional/states/florida/seismicity.php>
- Vista Technologies Inc. 2001. Environmental Assessment for the Privatization of Housing, Patrick Air Force Base, Florida. February 2001.
- Yim, 1999 in Labat-Anderson, 2006. Environmental Assessment: U.S. Air Force Academy Military Family Housing Privatization Initiative, El Paso County, Colorado. Prepared for U.S. AFCEE by Labat-Anderson Incorporated and STEP, Inc., Contract F41624-03-D-8616, Task Order 0024. March 31, 2006.

---

# **APPENDIX A**

## **ACRONYMS AND TERMS**

---



## ACRONYMS

AFCEE	Air Force Center for Environmental Excellence
AFI	Air Force Instruction
AFTAC	Air Force Technical Applications Center
AICUZ	Air Installation Compatible Use Zone
aka	also known as
ARC	Association for Retarded Citizens
BMP	Best Management Practices
BX	Base Exchange
CAA	Clean Air Act
CCAFS	Cape Canaveral Air Force Station
CDC	Child Development Center
C&D	Construction and Demolition
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CO	Carbon monoxide
DoD	Department of Defense
DOPAA	Description of the Proposed Action and Alternatives
EA	Environmental Assessment
EDR	Economic and Demographic Research, Office of
e.g.	<i>exempli gratia</i> (for example)
EO	Executive Order
ESA	Endangered Species Act
FAAQS	Florida Ambient Air Quality Standards
FAR	Federal Acquisition Regulation
FDEP	Florida Department of Environmental Protection
FNAI	Florida Natural Areas Inventory
FPL	Florida Power and Light
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
FWC	Florida Fish and Wildlife Conservation Commission
FY	Fiscal year
GAO	General Accounting Office
GIS	Geographic Information System
gpd	gallons per day
HAP	Hazardous air pollutants
HAZWOPER	Hazardous Waste Operations and Emergency Response
HQ	Headquarters
HRMA	Housing Requirements and Market Analysis

IPM	Integrated Pest Management
IPMP	Integrated Pest Management Plan
INRMP	Integrated Natural Resource Management Plan
IRP	Installation Restoration Program
kg	killigram
kV	kilovolt
kW	kilowatt
Ldn	Day Night Average Level
LPS	Low pressure sodium
LTM	Long Term Monitoring
MACTEC	MACTEC Engineering and Consulting, Inc.
MFHPI	Military Family Housing Privatization Initiative
mg	milligram
mgd	millions of gallons per day
MMPA	Marine Mammal Protection Act
MMS	Minerals Management Service
MSL	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NMF	National Marine Fisheries
NRHP	National Register of Historic Places
NRCS	Natural Resources Conservation Service
NSA	New South Associates
OCS	Outer Continental Shelf
O&M	Operations and Management
OSD	Office of the Secretary of Defense
PAFB	Patrick Air Force Base
PCB	Polychlorinated biphenyl
PM	Particulate Matter
PO	Project Owner
PSD	Prevention of Significant Deterioration
PVC	Polyvinyl chloride
RCRA	Resource Conservation and Recovery Act
RFP	Request for Proposal
RQW	Rescue Wing
SAIC	Science Applications International Corporation
SCTLS	Soil Cleanup Target Levels
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SOH	Senior Officers Housing
SW	Space Wing
SWMU	Solid Waste Management Unit

Threatcon	Terrorist Threat Condition
US	United States
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	Volatile Organic Compound

# **APPENDIX B**

# **AGENCY CORRESPONDENCE**



JUN 26 2008

FLORIDA DEPARTMENT OF STATE  
Kurt S. Browning  
Secretary of State  
DIVISION OF HISTORICAL RESOURCES

Ms. Joy Ryan  
MACTEC Engineering and Consulting, Inc.  
404 SW 140<sup>th</sup> Terrace  
Newberry, Florida 32669

June 23, 2008

RE: DHR Project File Number: 2008-3253  
*U.S. Air Force Military Family Housing Privatization Initiative - North & Central Housing Areas*  
Patrick Air Force Base, Brevard County

Dear Ms. Ryan:

Our office reviewed the referenced project for possible impact to historic properties listed, or eligible for listing, in the *National Register of Historic Places*. The review was conducted in accordance with Section 106 of the *National Historic Preservation Act of 1966*, as amended and *36 CFR Part 800: Protection of Historic Properties*, the *National Environmental Policy Act of 1969*, as amended and the implementing state regulations.

Based on the information provided, it is the opinion of this office that the above-referenced undertaking will not affect historic properties.

If you have any questions concerning our comments, please contact Scott Edwards, Historic Preservationist, by electronic mail [sedwards@dos.state.fl.us](mailto:sedwards@dos.state.fl.us), or at 850-245-6333 or 800-847-7278.

Sincerely,

Frederick P. Gaske, Director, and  
State Historic Preservation Officer

500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

☐ Director's Office  
(850) 245-6300 • FAX: 245-6436

☐ Archaeological Research  
(850) 245-6444 • FAX: 245-6452

☒ Historic Preservation  
(850) 245-6333 • FAX: 245-6437

☐ Historical Museums  
(850) 245-6400 • FAX: 245-6433

☐ South Regional Office  
(561) 416-2115 • FAX: 416-2149

☐ North Regional Office  
(850) 245-6445 • FAX: 245-6435

☐ Central Regional Office  
(813) 272-3843 • FAX: 272-2340



# United States Department of the Interior

## U. S. FISH AND WILDLIFE SERVICE

7915 BAYMEADOWS WAY, SUITE 200  
JACKSONVILLE, FLORIDA 32256-7517

IN REPLY REFER TO:

**FWS Log Number: 41910-2008-F-0446**

August 8, 2008

Robin Sutherland  
Chief, Environmental Planning  
1201 Edward H. White II Street, MS 7100  
Patrick AFB, Florida 32925-3299

Dear Ms. Sutherland:

The U.S. Fish and Wildlife Service (Service) received your draft Environmental Assessment (EA) and accompanying information for the following project on July 31, 2008.

APPLICANT	PROJECT NAME	FWS LOG NUMBER
Patrick Air Force Base (PAFB)	Military Family Housing Privatization Initiative	41910-2008-F-0446

The Air Force proposes to convey 524 existing housing units (North and Central Housing Areas), associated infrastructure, and utilities to a private real estate development and property management company (PO). The PO will then demolish a total of 36 units in Central Housing, and renovate the remaining units in North and Central Housing. The PO will lease the associated land from PAFB, and will maintain and manage the North and Central Housing Areas for 50 years. There will be no new construction associated with this project.

PAFB is located in the central coastal portion of Florida, north of the City of Satellite Beach and south of Cape Canaveral. PAFB maintains an active airfield, encompassing approximately 2,313 acres. There are four housing areas associated with PAFB (North Housing, Central Housing, South Housing/Pelican Coast, and Senior Officer Housing). The North, Central and Senior Officer Housing Areas are located within the boundary of

PAFB. The South Housing/Pelican Coast Area is located south of PAFB (off-base). The housing areas are located along the Atlantic Ocean coastline in Brevard County, Florida.

Prior to January 2001, the 45<sup>th</sup> Space Wing (SW) managed exterior lighting in accordance with a Biological Opinion (BO) dated May 2, 2000. The design and use of exterior lighting was addressed in this BO. On January 12, 2001, the Service received a letter requesting re-initiation of consultation from the Air Force. The Air Force proposed to privatize the South Patrick Housing Project. It was determined that this action "may affect" nesting and hatchling sea turtles that may be disoriented from artificial lighting visible from the beach. The Service provided deed restriction text on July 3, 2001, and June 3 and 24, 2003, in response to the consultation letter.

On July 31, 2008, the Service received an email from Keitha Dattilo-Bain, a representative of the 45<sup>th</sup> SW. The email contained the draft EA for the proposed U.S. Air Force Military Family Housing Privatization Initiative at PAFB.

The proposed privatization "may affect" the loggerhead (*Caretta caretta*), green (*Chelonia mydas*), leatherback (*Dermochelys coriacea*), hawksbill (*Eretmochelys imbricata*) and Kemp's ridley (*Lepidochelys kempii*) sea turtles. We submit the following comments in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*).

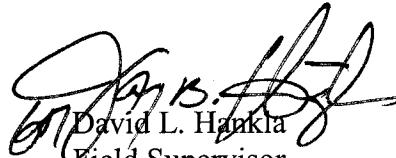
The following requirements must be included in the deed restrictions in perpetuity  
Lighting on this property will be available for inspection and enforced throughout the housing units.

1. Street lighting associated with the housing units will be replaced with full-cut-off fixtures with low-pressure sodium lighting and a pole height no higher than 20 feet.
2. Porch lighting and floodlights will be replaced with low-pressure sodium lighting that is shielded and directed downward.
3. From March 1 through October 31 each year, exterior lights at all ball fields will be turned off by 9pm each night and may not be turned on again until after sunrise.
4. At no time should metal halide or mercury vapor lamps be installed on this property. No up-lighting is permitted anywhere on the property.
5. Exterior fixtures mounted to homes will be replaced with "downward-directed lights only" to direct lights where needed for safety and security and to ensure no up-lighting and unnecessary lateral light spread.
6. Interior lights will be minimized with light-blocking blinds or curtains.
7. A lighting survey will be conducted each year prior to March 1. Any lighting source or reflected lighting source visible from anywhere on the beach must be

reported to the Service and replaced immediately with the appropriate lighting fixture approved by the Service.

Thank you for the opportunity to protect our federally listed species. If you have any questions, please contact Ann Marie Lauritsen at (904) 525-0661.

Sincerely,



David L. Hankla  
Field Supervisor

Cc:  
Sandy MacPherson- FWS/JAX  
Jean Higgins- FWC



RECEIVED OCT 16 2008



# Florida Department of Environmental Protection

Marjory Stoneman Douglas Building  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000

Charlie Crist  
Governor

Jeff Kottkamp  
Lt. Governor

Michael W. Sole  
Secretary

October 13, 2007

Ms. Flormari Blackburn, Principal Engineer  
MACTEC Engineering and Consulting, Inc.  
4150 N. John Young Parkway  
Orlando, FL 32804-2620

RE: Department of the Air Force - Draft Environmental Assessment for  
Proposed Military Family Housing Privatization Initiative at Patrick Air  
Force Base - Brevard County, Florida.  
SAI # FL200810134463C

Dear Ms. Blackburn:

Florida State Clearinghouse staff, pursuant to Presidential Executive Order 12372, Gubernatorial Executive Order 95-359, the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended, has reviewed the referenced Draft Environmental Assessment (DEA).

Based on the information contained in the DEA and minimal project effects, the state has determined that, at this stage, the proposed federal activities are consistent with the Florida Coastal Management Program.

Thank you for the opportunity to review the proposed project. Should you have any questions regarding this letter, please contact Ms. Lauren P. Milligan at (850) 245-2170.

Yours sincerely,

A handwritten signature in cursive script that reads "Sally B. Mann".

Sally B. Mann, Director  
Office of Intergovernmental Programs

SBM/lm